THE TIMES
Higher Education
SUPPLEMENT

Universities fear the cost of pay rises

by Ngaio Crequer and David Jobbins

University pay negotiations for academic staff restarted this week with the universities increasingly anxious that they will be unable to afford substantial pay rises.

The resumption of talks came as a result of last week's announcement by the Government that the cash limit for recurrent grants for the academic year 1979-80 will be increased by £31.85 million. This takes the total income to £872,730.

The universities will eventually have to pay for a series of pay claims out of the £31 million. This includes the non-clinical academic and related staff who have already made out a claim for a 30 per cent rise.

Then there are the technical staff, whose rises will be backdated to October, 1979 and the manual staff, rises for which will be backdated to November, 1979. Both these groups have cases currently being considered by the Clegg standing commission on pay comparability. Some of the money will also have to go towards paying rises for the clerical staff.

When the recurrent grant was first announced a notional 5 per cent was built in for pay rises and between 8 and 9 per cent for price rises. In July an additional £21.9m was added to the grant for the period August, 1979, to March, 1980, to acknowledge the effect of then known pay rises. The new announcement assumes, broadly, an extra 7 per cent for pay rises but no allowance for price rises.

No more money will be made available until next year's recurrent grant is announced. What worries the universities is that they do not know the assumptions made by the Government behind the latest announcement, nor can they take any comfort in a known "going rate" for pay rises or claims.

Meetings between the Association of University Teachers, the University Authorities Panel, the Department of Education and Science and the University Grants Committee took place all last week and will continue next week.

Two main issues were discussed: an increase for university teachers to be backdated to October, 1979, and the question of a Clegg comparability exercise. Any recommendations would have to go to the AUT Council meeting in Sheffield later this month.

Public sector lecturers' leaders are privately speculating that the Clegg commission on pay comparability may not now publish an interim report.

The intention had been that whatever Clegg recommended would be paid in two stages—January 1 and September 1. An interim report before Christmas was to have enabled the size of the January stage to be decided more easily.

But because union leaders and the local authority employers are not meeting the commission until December 21, to hear its decision on whether there should be an interim report and when it should be published, the January instalment is likely to be negotiated through the Burnham machinery instead.

One trainee teacher in three cannot pass maths O level

by John O'Leary

More than one third of the students admitted to undergraduate teacher training courses this term would not meet next year's more stringent entry qualifications.

New figures from the Central Register and Clearing House show that even among entrants to the Postgraduate Certificate in Education, 17 per cent did not possess O levels in mathematics and English Language as well as two A levels. The new requirements will not affect PGCE students until 1983.

The survey shows that overall targets for teacher education recruitment were almost met this year, but that the insistence on English and mathematics O levels for next year's BEd courses will result in a shortfall in 1980.

Only 62.73 per cent of new entrants had the qualifications which will be required for almost all similar courses next year.

Applications for BEd courses starting in 1980 are already showing a sharp decline and, with recruitment targets almost the same as for this year, the figure of 9,000 new entrants is unlikely to be repeated.

Miss Beryl Sowerbutts, secretary of the Clearing House, said the figures had been expected and that O level mathematics was the most common stumbling block. It was hoped that, as schools became more aware of the new entry requirements, standards would rise.

"We are now competing very much with the universities and polytechnics. This will be a trial year for the BEd because we are looking for something actually in excess of normal degree qualifications", Miss Sowerbutts said. "If it does turn out to be a lean year, we can only say that to be numerate and literate is something very much to aim for."

Applications for PGCE courses showed a slight increase on 1978 figures but revealed a continuing decline in the shortage subjects of mathematics and chemistry. Applications for next year show a further decline, with a sharp drop in physics also coming through.

Job link for sixth formers

by Patricia Santinelli

The introduction of a new exam for non-academic sixth-formers is called for in a report due to be published next week by the Department of Education and Science.

A confidential draft of the report, prepared by a committee under Professor William Keohane of the Roehampton Institute, says that by 1991 up to 80,000 sixth-formers would be candidates for a Certificate of Extended Education (CEE) after one year of sixth-form study.

The report stresses that, if the CEE is introduced officially, it should effectively prepare young people for employment. Pilot examinations showed that more than two thirds of the candidates intended to seek jobs on completion of their studies.

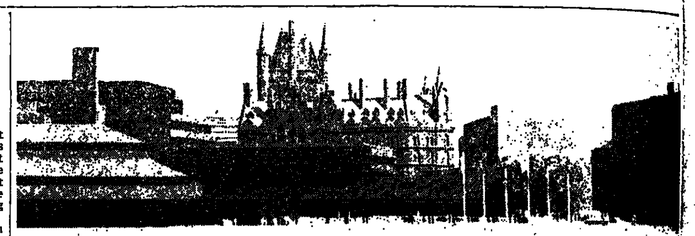
To achieve this, we recommend that all CEE courses should have obligatory elements of communication and numerical skills, a greater vocational orientation, and a free-standing pass/fail certificate which gives assurance to employers on all these points", the report says.

It recommends that examining boards should decide on the certificates' content and standards in consultation with teachers and employers. The tests would be set by boards and administered and marked by schools and colleges.

The report stresses the importance of winning the employers' confidence. It suggests that more CEE syllabuses, such as those already relating to work, should be developed by examining boards, with titles that adequately describe their content to employers.

Some CEE syllabuses and examinations of this kind should be offered by all schools and colleges providing CEE", the report says. It urges links with work experience where necessary.

The report emphasizes that its recommendations for the CEE are more akin to further education courses, and forecasts developing links with that sector.



New BL 'redundant in 20 years'

Plans for the new British Library building above in Somers Town, Euston, will be redundant after the year 2000, and the project will cost far more than the estimated £164m.

This is the argument put forward in a 40-page document sent to Mr St John-Stevas, Chancellor of the Duchy of Lancaster, by a group of scholars led by Professor Hugh Thomas of the Centre for Policy Studies, the group are opposed to any move of the BL's reference division from the British Museum.

"There is no suggestion that stage 1A of the plans unveiled by Mrs Shirley Williams last year would be complete before 1991 even if the existing timetable was adhered to. Therefore the whole project would be out of date before it is finished", the document says.

Approval for the new building was finally granted in 1978, in the face of the library's urgent accommodation, conservation and storage problems. The BL's collections are currently housed in 17 buildings throughout London, and the number of books in the reference division alone is expected to rise from the present 10m to around 25m by the year 2000.

The new library would house the reference and science libraries, bibliographic services, and the library of the Library Association. It would also provide an exhibition and culture centre.

The document suggests a modified version of the plans, which it claims would provide space through into the first half of the twenty-first century. It would also be far cheaper.

It stresses that the reference division should remain in the British Museum, with the use of the famous round reading room and the King's Library, which are seen as a fitting environment for scholars. It says that the argument about the shortage of seats is no longer valid as the demand for books has fallen by about half.

The document says there is a case for a new Science Reference Library, with a reading room, on the Somers Town site.

There is also a case for moving the Newspaper Library from Colindale.

Polys' expanding era is at end

The long awaited major policy statement from Mr. Mark Carlisle, Secretary of State for Education, leaves no doubt that the polytechnics' expansionary era is definitely over.

Speaking at Preston Polytechnic he called on them to build on their achievements of the past 10 years but made clear that the future was for consolidation, not expansion.

And he effectively ruled out the suggestion that polytechnics might become chartered institutions on university lines.

"Financial and other restraints mean we are moving into a period of consolidation following on from the rapid expansion of the past two decades," he said.

"But consolidation is definitely not the same as inertia and I think we should look on it as an opportunity to take stock, to confirm we are moving in the right direction, and to improve the utilization of the scarce and valuable resources devoted to higher education in pursuit of agreed aims."

Mr Carlisle warned there would be "little scope" for development of additional new courses.

His visit sparked off an occupation of the main administrative offices, the director's office, and the switchboard by students protesting at overseas fees increases.

APT victory claim at Trent

The Association of Polytechnic Teachers is claiming another recognition victory—this time at Trent Polytechnic.

This brings the total number of polytechnics where APT says it has recognition in some degree to eleven.

The Trent case illustrates the inexact definition of recognition. For APT itself admits its status is limited. It is recognized only for membership of the polytechnic's health and safety committee.

Nottinghamshire County Council, Trent's maintaining authority, declined to give APT the wider recognition it sought, including the ultimate prize of representation on the governing body.

APT has now referred its case to the Arbitration, Conciliation and Advisory Service.

Iraqi death list claims investigated

The Home Office is investigating claims that four Iraqi students at British universities are on a death list drawn up by pro-Baathist forces. The allegations have been passed to the Home Secretary, Mr William Whitelaw, by Mr Frank Allaun, Labour MP for Salford East.

The four students, two in London and two in Wales, are all members of the anti-government Iraqi Student Society, whose members have been the subject of harassment and some physical violence on several occasions this year. More serious attacks have taken place elsewhere in Europe, culminating this week in the murder of a 17-year-old Iraqi student in Bulgaria.

Leaders of the ISS allege that the assassinations were planned at a meeting in October held in the Iraqi Embassy in London. They fear that the four students named could be in danger over the Christmas vacation and are asking for urgent action by the Home Office.

Friction between the ISS and the government-backed National Union of Iraqi Students has increased since the appearance on some British campuses of forms said to be used in the surveillance of dissidents. Members of NUIS have been blamed for assaults carried out in Manchester and Swansea, which have led to the withdrawal of recognition by the National Union of Students—a decision due to be confirmed this evening at the NUS Conference in Blackpool.

Inquiry on lecturer

The senate of University College, Cardiff, has called for a further inquiry into the case of the Polish-born politics lecturer whose qualifications have been questioned.

The senate suggestion is that Mr Bogdan Szalkowski, 36, should not be re-engaged until he has had an opportunity to clear his name—and has succeeded in doing so.

College site saved

Government approval for the GLC to lease the former College of St Mark and St John to Chelsea College has saved the site from development as either housing or a private hospital. The 99-year £1.8 million lease will enable the GLC to retain the site for educational use.

'Not enough work' charge angers centre

by Charlotte Barry

The centre for socio-legal studies in Oxford has taken issue with a claim by a Social Science Research Council review panel that they were not publishing enough work.

The SSRC are asking the centre, which was instituted in 1973 as one of four council research units, to submit a detailed future research programme within 12 months. The accepted the main review panel recommendation that the centre be continued for ten years.

The centre are taking issue because they say they were encouraged to embark on long-term large-scale, in-depth research which could not be attempted in ordinary university departments.

The co-director of the centre, Donald Harris, pointed out that it seems to be a corollary that they can't expect such research to be done in a tremendous hurry. He added that the centre have only had a full staff for the past two years.

Admissions fall

from front page

income, would be marginally the least damaging.

Glasgow University estimates that by 1983-84, they will only be taking about a quarter of the numbers of overseas students they now admit.

Edinburgh estimates a decline in the number of home students over the next four years of about 8 per cent.

Imperial will charge overseas students not less than £3,000.

Aberdeen University thinks that level funding over the next four years would mean a drop in students of about 6½ per cent.

NEXT WEEK

Anthony Giddens on Raymond Williams
Mathematics journals
Eric Robinson on the polytechnics' first decade
The Bishop of Durham on the language of Common Prayer
Canadian higher education—the first of a series
Patrick Parrinder on D. H. Lawrence

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'British Brookings' plan revived

by Charlotte Barry

Proposals for a major new institute to analyse technological change are being considered by the Social Science and Science Research councils, which are expected to approach the Leverhulme Trust for part of its £1m a year funding.

The Centre for Analysis of Technological Change (CATCH) would analyse Government policy options on the use of resources, technological change and scientific development.

A decision on whether to proceed will be taken in January following separate meetings of the three bodies involved.

Plans for the new centre come after the failure in 1978 of the SSRC's controversial plans for a general policy institute modelled on the Brookings Institution in Washington. Plans for a "British Brookings" were laid down in 1977 when the SSRC decided to earmark £2m for it.

But following the merger of two institutes—PEP and CSSP—to form the Policy Studies Institute in March, 1978, the SSRC admitted it had failed to raise enough money from private sources.

It now seems that hopes for a European Brookings based in London have also collapsed, according to Dr Bernard Donoghue, a members of *The Economist* Intelligence Unit and former polic yadviser to Mr Callaghan.

He said: "The crazy thing is that the Ford Foundation were offering a very large sum of money. It has been rejected twice—once by the universities for a British Brookings. This would have been millions of dollars. It was a cavalier attitude to reject the serious offer."

The second rejection came when the Ford Foundation and the EEC were offering money through Brussels.

The Leverhulme Trust is believed to be receptive to the CATCH proposals following a recent influx of funds as a result of the Conservative decision to decontrol Government exchange regulations.

The trust, which is interested in this area of technological change, has just given £3½m over five years to the Science Policy Research Unit to look into technological innovation.

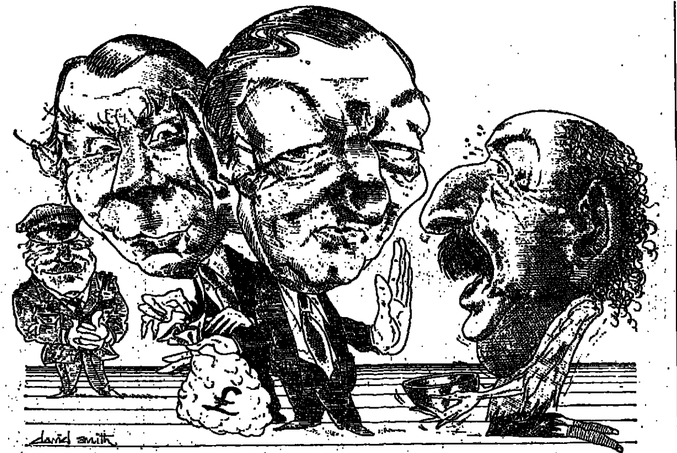
But Dr Ronald Tress of the Leverhulme Trust stressed: "One wants to see a substantial organization with certain features about it if it is to be effective. On the other hand one does not want to see a monopoly."

Much of the work done by the proposed CATCH would concern the relationship between scientific and technical development and its application in industry.

It follows discussion at a joint SRC/SSRC committee dealing with problems in the area of social impact of change, and is thought to be a response to widespread concern about rapid technological change involving in particular the use of microprocessors in industry and nuclear power as a replacement of energy resources.

The main existing research units have been consulted in advance and reassured that the new venture will not be competing for scarce funds. It is understood a substantial proportion of the budget would be used to contract work out to other institutes.

Mark Three Brookings, page 8
Leader, page 27



Academic staff fear derisory offer

The Association of University Teachers is to meet the Department of Education and Science on Monday to give its reaction to an employers' pay offer this week believed to be between 7 and 8 per cent.

Many university academic staff would regard such an offer as derisory.

Two offer has been linked with a proposal to refer the whole question of pay to the Clegg Standing Commission.

The AUT has put in a claim for a 30 per cent rise and would probably be outraged at an offer of less than double figures.

Onesof the constraints affecting the negotiations is the likelihood of DES insistence that any rise before Clegg has considered the case would have to be met from existing cash limits. The supplementary grant announcement assumed, broadly, an extra 7 per cent for pay rises, but the offer is known to be more than that.

Negotiations may well have been influenced by the fact that university technicians have been recommended by their union to accept an offer of 8 per cent, payable from October, 1979. The 14,000 technicians will get a further increase of 6½ per cent in April, 1980, as a result of a 1978 Clegg recommendation. Pay for technicians from October, 1979, would range from £2,751 to £7,569.

A third group of workers whose pay rises will have to come out of the supplementary grant announcement are the 16,000 manual staff.

London University Schools confirm Annan's fears of closure

by Ngaio Crequer

Two University of London Schools have confirmed fears that they face closure within the next three years unless the Government makes special provision for them. A third is equally anxious about its future.

Lord Annan, the Vice-Chancellor warned this week that the London School of Hygiene and Tropical Medicine, with 74 per cent of its students from overseas, the Royal Postgraduate Medical School with 47 per cent, and the School of Oriental and African Studies, with 35 per cent, "will almost certainly have to close within two or three years" unless special provision is made.

The School of Hygiene has confirmed that unless there is a modification on the overseas students policy, it could close within two years, although it believes that such a disaster would be forestalled.

SOAS has pointed out that the planning exercise is still hypothetical but clearly it shares the gloom held by specialist institutions with high overseas student numbers.

The Royal Postgraduate Medical School says that Lord Annan has simply summarised what it has said to him.

Lord Annan made his remarks in response to a UGC letter calling for funding and admissions forecasts based on future financial projections. He said: "There is no conceivable way in which by the rest of the university tightening its belt these three institutions can be saved."

He said that the London School of Economics and the Institute of Education were also "seriously at risk" because of their high full-time overseas student percentages (37 and 29 per cent). London faced an avalanche of staff redundancies.

Dr Gordon Smith, the Dean of the London School of Hygiene and Tropical Medicine said: "If the Government policy on overseas students were applied without any modification then we would certainly have to wrap up within two years or so."

The School would have to change overseas students a fee of £5,000 next year which would probably increase to £7,000 by 1982-83. The nearest equivalent to the School, in America, charged about £2,000.

The School has no way of knowing how the increased fee will affect applications.

Dr John Weisman, secretary of the Royal Postgraduate Medical School said Lord Annan's comments were a fair prognosis.

The School had always opposed redundancy but if the Government policy persisted the universities would have to face up to it.

Mr John Bracken, secretary of the School of Oriental and African Studies said the planning exercise was hypothetical and the School was not being confronted with any firm decisions.

Lord Annan stressed the "specially disastrous plight" of London.

Poly power struggle

by Peter David

A major shift in the balance of power between polytechnics and the local education authorities which maintain them is being sought by the local government associations.

The Association of County Councils is asking the Government to remove the Department of Education and Science's duty to approve the instruments and articles of government of public sector higher education institutions.

In a submission to Mr Heseltine, the Secretary of State for the Environment, the ACC says local authorities need "greater freedom in the management of institutions which they maintain".

Since the designation of the polytechnics 10 years ago local authorities have had to gain DES approval for the articles of government, which lay down the composition of polytechnic governing bodies and determine the respective duties of the local authority, governing body, director and academic board.

In most cases the DES has used its powers to ensure that academic boards and governing bodies have wide responsibilities for the internal management of their institutions, subject only to overall financial control by the maintaining local authority.

The local authorities now want to be able to revise existing instruments and articles without needing approval from the DES, and without having to observe the instructions of a department circular in 1970 which set out the general principles governing the balance of power between the institution and its local authority.

This would enable local councils to change the membership of polytechnic governing bodies, and take over detailed control of staff appointments.

Contents

Fears over teacher supply policy

by David Jobbins

Education lecturers are anxious that the Government is showing no signs of re-establishing a committee to advise it on national policy for teacher supply and education.

There is a widespread feeling that the former Advisory Committee on the Supply and Training of Teachers, which ended its term last year, did a good job.

In support of this can be called the announcement last March by Mrs Shirley Williams, former Secretary of State for Education, that it should be reconstituted for a further five years as the Advisory Committee on the Supply and Education of Teachers (ACSET.)

But the committee, which was to be chaired by Sir Arthur Armitage, has yet to reconvene.

With the incoming Conservative Government, the antipathy towards quangos makes education lecturers fairly certain it will not be revived, although there has been no official statement as yet.

Mr William Middlebrook, secretary of the Polytechnics Council for the Education of Teachers, said: "There is no body to advise the Department of Education or the Government on the requirements of teacher training in terms of numbers, balance of training, and so on".

"Because there is no one central body the DES has to go through a piecemeal exercise with different people. That is a fundamental problem in terms of teacher training."

The policy vacuum has been accentuated through the apparent scrapping of the Oakes report proposals for new regional bodies to replace the Area Training Organizations which were abolished in 1975.

Mr Middlebrook feels the need for a central advisory body is unanswerable. He predicts that teacher training recruitment figures are likely to take a further dive next year, often because of the effects of adverse publicity on teacher unemployment.

With the upturn in the birth-rate there were already signs of a new teacher shortage by the middle and end of the next decade. But regional differences are marked, according to Mr Middlebrook, with the increase occurring at different times in different regions.

ITBs want a Royal Commission

by Patricia Santinelli

The Government should urgently set up a Royal Commission to examine the kind of industrial training system, taking into account the part played by the Department of Education and Science and the Department of Employment, needed to take this country into the next century.

This is the view of the professional and advisory staff representing the majority of Industrial Training Boards being submitted to the Manpower Services Commission Review Body set up to look into the working of the 1973 Employment and Training Act and the role of ITBS, and due to report by the middle of next year.

The staff fear that the present scope of the Review Body is too limited and that any policy decision taken as a result of its recommendations will be out of date in a few years.

"We consider that there is a need for a review, not just of the working of the 1973 Act but beyond that into the arrangements for a total industrial training system", the staff say. "The widening of the scope of ITBS will be only part of the total picture."

The staff stress that the influence the British educational system has upon industrial training needs to be debated alongside any consideration of how to improve the industrial training system.

"The review would have to consider the impact of the compulsory education system on industrial growth and potential" they say.

"Many of our members report the difficulties that companies have in recruiting young people with an appropriate educational background for further training. In other cases the development of managerial potential is slowed by the effects on young people of their experiences in the education system."

On the actual and future scope of ITBS, the staff want the board's role to be extended beyond the encouragement of training into the effective use of manpower and technology. To this end they seek representation from relevant working parties of NEDO and closer liaison with the DES and the various relevant educational consultative bodies.

Student exchanges 'will suffer' through fees increase

The Government has accepted that higher fees for overseas students is likely to reduce educational exchanges between countries with whom Britain has cultural agreements.

Lord Carrington, the Foreign Secretary, has told Sir Alec Merrison, chairman of the Committee of Vice-Chancellors and Principals, that the need to make savings must be given the highest priority.

Sir Alec wrote to Lord Carrington to point out the international dimension to the decision to charge overseas students full cost fees. He said that 10 per cent of overseas students at universities were helped in some way by British Government sources. This help, which spanned the old and new Commonwealth, was highly prized by the universities, the recipients and overseas countries.

In particular there was buoyant demand for help from the developing countries and there was prospective demand from Rhodesia. He asked for an assurance that the numbers of students assisted would not be reduced.

Sir Alec also asked that means should be found to assist the universities where they were seeking to pursue the provisions of international agreements which involved higher education training for nationals of other countries.

Further he said that damage would be done to international understanding by the decision to charge fees of the proposed magnitude. It would be folly for the universities to break relationships which they have been developing for decades throughout the world.

In reply, Lord Carrington said he was unable to give any assurance that numbers currently assisted would not be reduced. Schemes referred to were wholly or partly funded from the bilateral aid programme which had to share its burden of the cuts.

"In addition, increases in the fees which we pay for the great majority of these students will augment considerably the unit cost of the government training programmes which form an essential part of our technical obligations." It would be very difficult to avoid substantial cuts in the numbers supported under these schemes.

Lord Carrington pointed out that a number of overseas postgraduates would be assisted by the bursary scheme and that the position of EEC students was still being considered.

Strathclyde warning to MPs

by Ngaio Crequer

Senior university administrators at Strathclyde will join a staff delegation to lobby Scottish MPs to warn of a financial crisis and "grievous cuts in student admissions.

At the Commons lobby on December 13 members of the university will draw attention to the effect of cuts in public expenditure on educational opportunity and the Scottish and United Kingdom economy.

In a document sent to local MPs the Association of University Teachers at Strathclyde states that the university now faces a deficit of about £1m. Further cuts will mean that the university will lose about 15 per cent of its real income over the next four years.

Both the university and the AUT agree that the effect of Government policy on financing and overseas fees will have a frightening effect on student intakes. Preliminary figures suggest that new undergraduate admissions would fall by about 20 per cent next year, with further falls the following year. They say: "Since the number of Scottish school-leavers is continuing to grow, this represents a severe blow to educational opportunity in the Strathclyde region."

The university points out that it has been unable to accumulate reserves, as other institutions have done. It is also worried about the level of supplementation to cover salary increases. As it points out, the £31 million supplementation recently announced for all universities, only covers two-thirds of the academic year.

About 70 per cent of full-time students are from the Strathclyde region, and it also has a generous policy on mature students, who account for 30 per cent of its undergraduates.

The university points out that it provides education at a relatively low cost as most students from the region live at home, with a consequent reduction in the size of the student maintenance grant.

Strathclyde is a major employer in the region, and for all the university generates spending of about £40 million per annum in the local economy, a large contribution to employment in the West of Scotland.

The delegation includes Professor Alastair North, vice-principal of the university, as well as local and national AUT members and staff.

Oven waves reach for the stars

by Robin McKie
Science Correspondent

Next time you supplement your lunchtime pint with a plate of piping-hot pie, beans and chips, spend a silent tear for the people's hordes ye robbed radioastronomers!

For not only do these poor souls have to wrestle with the mysteries of the universe, while their grants dwindle, but now they face a threat from a distinctly unexpected source—the microwave oven!

Sadly, it appears, this modern wonder of domestic science is emitting radiation that is playing merry hell with the little bleep and fiddly bleeps from Out There. Indeed, the Jodrell Bank scientists have warned that the increasing use of microwave ovens poses a serious threat to radioastronomy.

In a report in *Nature*, Dr Anderson, R Pritchard and R Rowson of Manchester University admit that microwave ovens conform to current legislation in keeping their basic 12cm radiation adequately confined. But the ovens were also found to produce longer wavelength radiation similar to those of important astronomical sources, such as interstellar clouds. This radiation was not contained by the oven door seals.

The astronomers conclude that unless legislation is tightened up, the increasing use of microwave ovens could seriously affect radio astronomical experiments. And given that these signals take several thousand million years to reach us, it does seem a trifle unfair that they are disrupted by our own peculiar culinary habits.

So next time you are in your local, strike a blow for science and have your pie, beans and chips cold. Or, maybe you could just have another couple of pints instead.

Radio help for young jobless

Skills for Survival, a new series of radio programmes to help further education colleges and other centres providing short courses for unemployed young people, is being launched by the BBC next month.

The series, which is to be broadcast on Sundays between January and May, is designed to enable young people to acquire simple skills such as making telephone calls, filling in forms or meeting people which for them are far from routine.

The programme will include illustrative case studies or dramatized scenes which it is hoped tutors will record and use as group resource material. After a general introduction to skills teaching the series will deal with some of the following: broken homes, "How I See Myself", "How Others See Me", "Finding a Job" and "Managing People".

Sir Charles Carter, former vice-chancellor of Lancaster University and now at the Policy Studies Institute in London, received an honorary Doctor of Science degree last week from Princess Alexandra, Lancaster's chancellor.

Pamphlet urges longer courses for postgraduates

by John O'Leary

Postgraduate teacher training courses should be longer and tougher so that they can lay the ground for a more flexible teaching profession, Sir Charles Carter, former vice-chancellor of Lancaster University and two researchers proposed this week.

In the pamphlet, *Swings for Schools*, published by the Policy Studies Institute, Sir Charles, Mr. John Ermisch and Mr. Frederick Ruffett, foresee the need for an increase in the number of trained teachers in the next 20 years, despite a continuing low birthrate.

The teacher education system should therefore be capable of responding to temporary demographic trends in a manner that has not been present in the past. The solution, say the authors, is to extend further the reliance on the Postgraduate Certificate in Education, which already caters for about half of the students in training.

Such a change would not only allow for a swifter response to changes in the birthrate than altering the numbers on four-year BEd courses, but would also provide more scope for teachers to move in and out of the profession. The BEd is not widely acceptable as a qualification to do anything but teach, the pamphlet states, and the problem of mobility would be eased if more of the teaching force held BA or BSc degrees.

The controversial proposition of introducing fixed period contracts for teachers is also considered a possibility to allow local authorities greater flexibility in coping with fluctuating school populations.

However, a greater reliance on the PGCE would necessitate a complete rethink on course content, the authors say, since the PGCE is presently considered lightweight, intellectually and yet insufficient to provide a thorough knowledge of educational theory and practice. They should become a tough, full-time introduction to the profession stretching over 10 or 11 months rather than the present nine, the pamphlet proposes.

"The advantages of the flexibility to be gained by using this route into the profession are too great to be sacrificed", the authors say. "Difficulties arising from the fact that a large proportion of postgraduate certificate courses at present take place in university departments of education which are not readily responsive to central control of numbers, should not prove insuperable."

A change in the character of PGCE courses would also facilitate the introduction of more movement of teachers between primary and secondary schools, which the authors also believe to be necessary. At present, they say, PGCE graduates see themselves as subject specialists, while those trained on BEd courses have a more thorough knowledge of the whole teaching task.

More in-service programmes would be necessary to assist teachers to adapt to different age-groups but the cost involved would be less than the amount wasted if the system remained unsuitable for the demands made on it, the pamphlet concludes.

Swings for the Schools, by Sir Charles Carter, John Ermisch and Frederick Ruffett, Policy Studies Report No 584. £1.

US group demands fair play for foreign counterparts

A federation representing nearly 200 American universities and colleges is to urge the Government to treat overseas students in the same way as home students and to recognize the merit and economy of reciprocal exchange agreements.

The Council of International Educational Exchange, based in New York, is concerned about the exchange programmes, which it considers to be of the utmost importance to both Britain and the United States.

The council is to ask the Government to reintroduce arrangements for the reception of overseas students on conditions no less favourable for those obtaining for UK students as soon as possible".

It calls for a mechanism to be set up to encourage and facilitate reciprocal agreements on a fee-waiver basis, and says the US and UK governments should strengthen their commitments to the Fulbright programme and other schemes of mutual educational exchange.

The council says that exchange agreements between colleges and universities in the United States and universities and polytechnics in the United Kingdom have invigorated the academic climate, contributing to classroom instruction, research and a mutual understanding of the different ways the common heritage has evolved.

The decision to charge full cost fees placed valued exchange relationships in the gravest jeopardy. Different policies of the two governments regarding the support of overseas students put Americans at a serious disadvantage in exchange schemes involving institutions with high costs of tuition.

It also points out that the flow of scholars under the Fulbright programme has seriously diminished in the last two years due to inadequate funding by the two governments.

£100,000 a year science interchange to go ahead

by Robin McKie
Science Correspondent

A unique joint scheme organized by the Science Research Council and the Royal Society is to be set up to promote the interchange of scientists between industry and universities. The £100,000-a-year experimental project, which would provide about ten industrial fellowships, has been agreed by the central councils of both organizations and is expected that the first appointments will be made by October next year.

An equal number of academics in industry and industrial scientists in universities would be financed by the scheme which is aimed at candidates in the 30-45 age group. These scientists will be expected to put forward projects that could become a significant part of a company's research programme or a decisive component of research and teaching in a university department.

The fellowships, which will receive £75,000-a-year backing from the SRC and £25,000 from the Royal Society, are intended to enhance communication in science and technology and to promote the industrial application of university research.

Each fellowship is expected to last between six months and two years and will cost an average of about £10,000 a year. About £7,000 to £8,000 will make up the scientist's salary, and the rest will go on support costs.

Universities stand to benefit by gaining personnel with industrial experience who can then influence research programmes. Industry will gain by acquiring experts in fields which are relatively new or unknown to companies.

However, it is stressed that the scheme is not an exchange. If one scientist vacates a post in industry there will not be a reciprocal move from the university involved. Instead, the fellowship grant will go towards the pay needed to fund his replacement. A similar principle will operate for academics moving into industry.

Industrialists moving into university departments will be expected to carry out about six hours teaching a week, as well as some seminar and research supervision work. It is then envisaged that future science students will gain through more education in industrial application.

In general, successful candidates will have to satisfy the joint selection panel that the head of the organization receiving the scientist is satisfied about the worth of his research and that there is an expectation he will return to his original post when his project is completed.

A major factor in the scheme's establishment has been the need to counter the growing problem of university staff mobility. Because there are now very few vacancies, scientists are reluctant to move into industry and risk the likelihood of not finding a position when they wish to return to university. Thus an important source of innovation and cross-fertilization of ideas is being lost.

To prevent this, the industrial fellowships will encourage industrial scientists into universities and academics into industry. "The holder of a fellowship would necessarily work for an employer in the alternative sector of employment from that from which he had come, and would be expected to transfer physically between the two sectors", a Royal Society report on the scheme stresses.

Topics covered by the fellowships will include all subjects financed at present by the SRC. In particular projects in biotechnology and microelectronics could benefit from the new scheme.

County councils to fight MSC committee nominations

by Patricia Santinelli

A major row has erupted between the Association of County Councils and the Manpower Services Commission over the latter's nominations to its district manpower committees.

The association is determined to fight the MSC's decision to issue invitations to the National Association of Teachers in Further and Higher Education and the Association of College Principals for nominations of educational representatives to the DMCs which act as the local advisory machinery of the commission.

This decision was completely against recommendations made by a working party reviewing the future role and objectives of the DMCs in preparation for their reconstitution, which were that educational representatives should be drawn from assistant director further education and college principal level.

The MSC has so far refused to countenance the ACC's protest that education should be properly represented by members or officers nominated by the local education authorities as the providers of the service.

"The ACC would not wish to deny the right of teacher unions to take a place among other union representatives, nor the value to such committees of having a college principal involved. But representatives of unions cannot be held to represent the totality of the education service," the education committee says.

However, the commission argues that although there may have been misunderstanding they regard APC and NATFHE as representing the professional interest in education, and this in turn mirrors representation on the MSC itself where there is one APC/NATFHE commissioner.

But the issue has now become such a matter of principle for the ACC that the dispute which first began with Northamptonshire and spread to the remaining East Midlands councils is to take the national stage with recommendations recently approved by the education committee.

It has now instructed other county councils to support the stand taken by the East Midlands authorities and not allow any employees leave of absence or expenses to attend meetings for the establishment of the new DMCs.

Counting the cost of cuts

The Manpower Services Commission was this week considering how to ensure the survival of some of its major programmes following cuts of nearly 4,000 in its staffing.

The cuts follow the Government's announcement of civil service manpower cuts of 40,000 over three years. The commission's share was a reduction of 12.9 per cent in staff, reducing expenditure by £20.2 million.

Most likely to be adversely affected is the Training Opportunities Programme—the training and retraining programme in new skills for young people and adults—most of which is carried out by further education colleges. Last week the closure of several Government skill centres which run TOPS courses was announced following the Rayner report.

In a confidential paper discussing the options for cuts ranging from 10 to 20 per cent, produced earlier this autumn, the MSC predicted that a reduction of 10 per cent in staff could reduce completions on TOPS from 60,000 to 57,000 resulting in less clerical, management and semi-skilled training. Staff savings of between 15 to 20 per cent would ultimately reduce TOPS to 40,000 completions, probably with the abandonment of all clerical training and the present rationale for the TOPS scheme.

The commission foresaw that if the Special Programmes Division were to take its share of cuts, the STEP programme, which provides temporary employment for young people between 19-25 would have to be abandoned and the planned number of filled places on the Youth Opportunities Programme would have to be progressively reduced.

Yet currently the MSC is seeking an expansion of 20 to 25 per cent in YOP to allow the programme to take a minimum of 250,000 youngsters.

Brunel and Shoreditch to merge

by John O'Leary

Approval has been granted for the merger of Brunel University and Shoreditch College, Egham, less than a month before the deadline for applications for the university's new courses. The merger will take effect in August, 1980.

The final go-ahead was given by the University Grants Committee after more than two years of discussions involving the two institutions, the UGC, the Inner London Education Authority and the Department of Education and Science. Agreement was delayed over the question of who should pay for previously deferred maintenance work.

It has now been accepted that this bill will go to the ILEA while the UGC pays for additional improvements needed to bring the college campus up to the standards required by Brunel. A total of more than £500,000 is to be spent on the Shoreditch site, with further money being made available for a new administrative block on the existing Brunel campus partly to facilitate links between the two.

The UGC-sponsored improvements will be spread over a number of years, according to the size of its building grant. The university's recurrent grant will be increased to allow for the addition of 375 students on education courses.

The merger will create the first university department of design technology in the country and advertisements have already been placed for the first professor in the subject. Applications for places on the new course have been going ahead through the Universities Central Council for Admissions on the assumption that the merger would go through.

Although agreement had been reached in principle as long ago as May, final approval has come as a relief since the deadline for applications via UCCA is tomorrow.

The fate of non-degree courses provided at Shoreditch is under discussion at the university today. Certificate courses and conversion programmes for teachers in design technology (a shortage subject in schools) have been offered for the past two years. Students already on courses at the college will have degrees validated by London University.

● Mr Mark Carlisle, Secretary of State for Education, addressed a conference at Shoreditch this week on opportunities for women in teaching craft, design and technology. Some 140 of the country's 200 women teachers in the subject were among those attending.

Ulster's gaps in training are exposed

by Paul McGill

Serious gaps in management education in Ulster have been uncovered by Professor David Chambers of the London Business School in a study for the Northern Ireland Economic Council.

Among the findings is a sharp decline of 29 per cent in the number of engineering graduates from Queens University, Belfast, between 1973 and 1977, compared with a drop in British universities of four per cent. The council's chairman, Sir Charles Carter says in an introduction that the availability of managers has already been identified as an important constraint for economic development.

The report, entitled *The Availability Supply and Development of Management for Industry and Commerce*, says the performance of local management is probably better than in the United Kingdom as a whole.

Northern Ireland managers are strong in the skills needed to make products and get them out the factory gate; their delivery performance and record in industrial relations are good. But, says Professor Chambers, they are weak at marketing, tending to stick to the United Kingdom and Ireland, identifying new opportunities and setting up new projects.

Professor Chambers concludes that higher education has put most of its energies into the "high volume" end of the student market, equipping large numbers of young people with basic skills, but has not developed the courses suitable for the top end of the management market. He outlines a six-point strategy to strengthen the talents of local managers in export marketing, setting up new projects, spotting new opportunities and attracting the ablest people into management:

- Ten scholarships should be awarded annually to outstanding recruits to enable them to attend one or two year courses in foreign business schools.
- No dramatic change is needed in the provision of short courses for middle management but a central point for reference information and advice is necessary.
- Special training activities are suggested for small businesses.
- A register of Northern Ireland graduates and qualified engineers working outside Northern Ireland is recommended as the most promising group from which to attract people back.
- Public funds should be made available to all the providers of management training on an equal footing.
- A forum for managers should be set up to improve communications.

£300m for science

The Science Budget for 1980-81 is to be £300.2m, the Department of Education and Science announced this week. The breakdown, as revealed in *The THES* last month, is to be: Agricultural Research Council, £27.1m; Medical Research Council, £50.9m; Natural Environment Research Council, £34.4m; Science Research Council, £165.5m; Social Science Research Council, £14.7m; British Museum, £5m; and the Royal Society, £2.6m.

New PNL director anticipates era of 'civilized procedures'

by David Jobbins

The court of governors at North London Polytechnic has voted by a large majority to appoint Dr David MacDowall as £17,000 a year director from the New Year.

The decision was opposed by student members of the court, who objected to the way in which only Dr MacDowall's name went on to the short list from the selection committee.

Dr MacDowall, 49, has been assistant director responsible for academic planning. He succeeds Mr Terence Miller, the polytechnic's first director, who has been there since 1971.

Of the eight candidates originally on the long list, only five were eventually considered by the selection committee, which decided unanimously that only one name should be on the short list.

The students have consistently emphasized they have no personal objection to Dr MacDowall, but that they dislike intensely their exclusion from the short-listing process.

After confirmation of his appointment Dr MacDowall said he believed the polytechnic has changed since the days when it acquired its strifetorn image.

"It is not strifetorn at the moment. It is a very serious institution. Its students obviously have strong views but one has been progressively building bridges in discussions with staff and the students union", he said.

He looked forward to an era of "civilized procedures" to resolve issues. Unwilling to compare himself with Mr Miller, Dr MacDowall described his approach as pragmatic: "I did not start with any preconceived notions."

The student union's leadership believes that the relationship with the new director may be far less fraught. Mr Christopher Crowley, vice-president, said: "There is the potential for a lot more cooperation between the director and the students union."

Mr MacDowall: "No preconceived notions."

Dr MacDowall joined PNL from Durham University, where he was Master of University College. He went up to Oxford at 17 and obtained his degree in Literae Humaniores at Corpus Christi College.

In 1960 he joined the Ministry of Education as a principal, and among other posts served in the higher education planning branch. On appointment as assistant secretary in 1970 he was attached to the University Grants Committee, and the arts and libraries branch of the Department of Education.

A widely-respected numismatist, he has published widely on classical and sub-classical history, and is a Fellow of the Society of Antiquaries. His latest book, *Coin Collections — their Preservation, Classification and Presentation*, was published last year by UNESCO.

Official status for new exam

The proposal for a new exam for non-academic sixth formers is now official with the publication of the Keohane Report by the Department of Education and Science.

The report prepared by a committee under the chairmanship of Professor William Keohane of the Roehampton Institute says that immediate steps should be taken to initiate the development of a Certificate of Extended Education, for which it estimates there will be some 70,000 candidates by 1991.

The Keohane Report which has now been sent to interested bodies for comment recommends that the CEE should have compulsory elements of communication and numerical skills, should record performance in proficiency tests in English and mathematics and have greater vocational orientation to prepare young people for employment. Certification should be on a straight-forward pass/fail basis in order to give employers proof of candidates abilities.

WEA urges help for women

Special emphasis should be placed on women's education by the Workers' Educational Association, it was urged at a conference in London last weekend.

More than 100 representatives from 21 WEA districts and affiliated organizations attended the association's first women's education day conference.

The special need for women's education was emphasized by the chairwoman of the conference, Ms Margaret Marshall, the North of Scotland district secretary.

She told delegates that although women outnumber men by two to one in WEA classes, there is a need for courses for women returning to work, for women isolated in the home and for women trade unionists, which are not purely non-vocational.

During workshop sessions delegates considered a whole range of women's issues and educational needs which have been raised in the WEA as a whole since the establishment of a women's education advisory committee and the development of a women's studies newsletter.

John O'Leary reports from the National Union of Students conference at Blackpool

Political diversity reflected in toler ance

Any doubts that the new, more moderate style of the National Union of Students could survive a period of Conservative government were erased this week at the union's annual conference in Blackpool.

It had been widely forecast that the kind of radical right-wing measures presently being introduced would necessitate a return to the confrontation politics of the late 1960s and early 1970s. But the evidence of this week is that student union officers are unwilling to commit themselves to waves of militant action which their members may be unwilling to support. However strongly delegates at Blackpool felt about the issues, their resolutions were always tempered by the need for campaigns which would appeal to the membership.

Unusually for any sort of NUS conference, the primary characteristic of the three days' debate was consensus. The two main Ultra-Left groups, whose support was plainly at a low ebb, failed to carry one of the main policy decisions and executive proposals were surviving virtually untouched.

The outcome was a triumph for the Left Alliance, the latest and most broadly-based group to dominate the union. Its conference debut, which many of its own supporters feared would be an anti-climax, could hardly have been more successful.

Although the number of uncommitted delegates was again striking, interest in the new organization was such that almost a third of the 700 delegates attended a Left Alliance policy meeting which only started at 1.30 am. Clearly the all-embracing character of the new grouping struck a chord with many delegates, although its failure to push through a new system of subscriptions may serve as a warning for future occasions when there are more substantial differences on conference floor.

The climate of debate has, if anything, shifted still further towards mainstream politics and away from the internecine struggles between the various Left groups. There was real impatience at the occasional bout of in-fighting which inevitably flared up.

While the union could not be said to have moved further to the Right, previously unchallenged assumptions about the virtues of socialism are now raised with impunity. It has even been reluctantly accepted by the majority of activists that many students whose support will be needed if NUS is to have any impact actually helped bring in the present government

Despite the reception given to the Mayor of Blackpool by some 50 students from the Socialist Workers Party, this political diversity is also reflected in a new tolerance of unpopular views. Anything which smacked of the previous controversial "no platform" policy barring allegedly racist speakers from campuses was instantly voted down, and even anti-abortionists, who are normally guaranteed to raise hackles at such gatherings, were given a hearing.

What is not clear, however, is whether the union will long be able to retain its sense of unity and purpose from such an uncharacteristically wide ideological base. There remains a suspicion that the air of harmony in Blackpool this week had as much to do with the paucity if ideas coming from the opposition as with committed support for the leadership.

For the moment, the establishment of the Left Alliance has not only reduced the number of bodies to be reckoned with inside NUS but has also stolen the ground from beneath the main opposition. The limited militancy of the union's campaign against overseas fee increases has taken the sting out of the Ultra-Left's traditional stance, while the continued emphasis on public support and private lobbying satisfies many Conservatives.

Certainly, with the Ultra-Left in apparent disarray and the Left Alliance off to a promising start, everything in the NUS leadership's garden would appear to be rosy. However, even they must have a suspicion that it was all too good to be true and that unless their tactics are seen to have some effect in the coming months, they may still face a torrid time when the elections come round next Easter.

Financial crisis is feared

The National Union of Students could face a financial crisis after failing to agree a new subscriptions system. For the second conference in succession delegates voted down a series of proposals, thus ensuring that no new system will go through the required procedure in time for the start of the next academic year.

A new scheme proposed by the union's executive and aimed at lightening the burden on the large university unions suffered a more comprehensive defeat than the one put forward last Easter. On that occasion support for the scheme fell just 10,000 votes short of the necessary two-thirds majority.

Now Miss Helen Connor, treasurer of NUS, has promised to consult the various sections of membership before bringing back new proposals in April. A third scheme will be discussed at conferences of the different sectors next month if the executive has reached agreement in time.

However, since the NUS constitution requires that subscription levels are confirmed at the subsequent conference, emergency arrangements may have to be made so that subscriptions can be collected next year. With some large unions already threatening to withhold all or part of their contributions this year, there are fears that informal arrangements may not succeed in covering costs.

Any new system would have to satisfy the two lobbies responsible for bringing down the executive's proposals at this conference—the universities and the small colleges. At present the 40 largest unions, out of a total of some 800, contribute more than half NUS's income, leaving it vulnerable to serious damage from only a small number of disaffiliations.

Miss Helen Connor promised to consult the membership.

Miss Connor said that if no system could be agreed at the union's Easter conference, NUS would face a financial crisis, particularly since an agreement to extend the present arrangements temporarily would be unlikely to satisfy the disaffected universities.

President pledges opposition

In a fighting speech at the opening of the conference Mr Trevor Phillips, new president, pledged unremitting opposition by Britain's students to the "most right-wing, reactionary government of the century".

The "Gang of Four" at the Department of Education and Science had no idea about education policy, he said. Their only remit was to "cut, cut and cut again".

Dr Rhodes Boyson, the junior minister responsible for higher education, was singled out for particular criticism. "He has already been demonstrating the virtue of holding four degrees by shooting off his mouth wih off-the-cuff, unprepared and unresearched statements at every opportunity", Mr Phillips said.

Mr Phillips scorned a statement by Dr Boyson in *The THES* that opposition to the rise in overseas students was just "a knee-jerk of the Left". He told the conference: "He suggests somehow that the Archbishop of Canterbury, the Moderator of the Church of Scotland, King Olav of Sweden and the Committee of Vice-Chancellors and Principals, are all tools of the left-wing because they have spoken out against astronomic fee increases.

"No doubt they are all Socialist Worker Student Organization moles in disguise."

Describing the Government's recent White Paper on immigration as both racist and sexist, Mr Phillips pointed out that there were more than a million young blacks in Britain "who won't be pushed around much longer".

He went out of his way to praise the Young Conservatives and the Federation of Conservative Students, who had been critical of their own party's immigration policies.

Strong show of opposition to the cuts

Delegates voted solidly for a programme of action against cuts in public spending despite claims from Conservative students that the majority of NUS members supported the Government's policies.

Unions were urged to monitor cutbacks in their institutions and then to prevent them being implemented. Proposals to reduce university spending by 6 per cent next year were the main focus of delegates' determination to mount effective opposition.

In a motion which incorporated the union's claim for grants of £50 a week, the conference demanded the restoration of all cuts in public expenditure on education, social services and housing.

Several Conservative speakers defended the Government's record and insisted that it had the backing of many students. Mr Barry Wade, who topped the poll for delegates from Salford University, described the Government as the most principled and courageous since the war.

Miss Anna Soubry, the lone Tory on the NUS executive, told those demanding increased spending: "You are abusing students and NUS putting forward your pathetic socialist principles. You don't represent students because you don't communicate with them. They don't agree with you: students believe in cuts in public spending."

However, the one Conservative-backed amendment was heavily defeated and their own support for Government policies wavered late in the conference when immigration controls were discussed. A statement by the Federation of Conservative Students acknowledged that "there are racists in our party" and said FCS had been appalled by the latest proposals for immigration restrictions, which were pandering to uneducated fears.

The conference overwhelmingly passed an emergency motion condemning the proposals, which it described as racist, sexist and indefensible.

In Brief

A member of NUS staff and a Northern Irish delegate were detained for 26 hours under the Prevention of Terrorism Act during the conference. Mr Brendan Keenan, the union's field officer for the province, was held after protesting at the detention of Miss Patricia Clarke, a business studies student from Belfast.

Both were released from Liverpool police station after appeals to the Home Secretary, Mr William Whitelaw. Later in the conference delegates passed an emergency motion calling for the repeal of the Act.

Mr Derek Robinson, the sacked British Leyland convenor, appealed for the help of students in bringing the company to a halt if he is not offered his job back. Mr Robinson, who was given a standing ovation when he arrived to make a guest speech, said he had already had support and assistance from students in the Birmingham area.

The Mayor of Blackpool, Councillor Bobbie Dewhirst, was shouted down by some 50 chanting members of the Socialist Worker Student Organization when he came to welcome delegates to the town. Afterwards, Mr Trevor Phillips, NUS president, apologized.

In a motion containing more than 200 clauses delegates outlined a new policy to combat the Government's proposed rises in overseas students' fees.

Book spending down, claims survey

by Ngaio Crequer

More than two-thirds of all universities failed to increase their real spending on books by more than 50 per cent in 1976-77, according to a study by the National Book League.

No university had consistently increased its level of real expenditure over the years 1971-77 (adjusted to 1971 constant prices), and more than a quarter of all universities show a consistent decrease in real spending since 1973-74, the study reports.

This is the third report on expenditure on university libraries in the United Kingdom. It is a six-year survey and figures are derived from returns made to the University Grants Committee.

The average level of spending on books and periodicals by university libraries rose from £24.13 per student in the academic year 1971-72 to £47.11 in 1976-77.

But, the report says, if inflation is taken into account, this means that average spending showed a rise of only 20 pence (from £24.13 to £24.33) at 1971 prices.

This report reveals enormous differences between universities in the amount spent on books. In 1976-77 St David's, Lampeter spent £56.68 per student, more than 12 times that spent by the University of Manchester Institute of Science and Technology (£4.63). The latter spent more than three times as much money on periodicals in that year.

Although some universities are consistently at the top (Oxford, East Anglia, Keele) and others often at the bottom (UMIST, Salford, Heriot-Watt) of the ranking on spending per student, in some it is difficult to identify any consistent pattern year to year.

The report says that when measured at 1971 constant values, 61 per cent of universities, however the variations in spending over the years, were spending less on books in the 1976-7 academic year than they had spent in the year 1971-2.

Average book expenditure in real terms during the three year period from 1974-5 to 1976-7 was below the figure for the six year average in almost 79 per cent of universities. At 16 universities, expenditure was reduced by more than 10 per cent, and at five it was reduced by more than 20 per cent of the six year average figure.

The report also says that since 1974-5 the proportion of total expenditure allocated to book acquisition "has been seriously eroded", from 23.4 to 19.32 per cent over the six years.

** University Library Expenditure, 1971-77. Results of a six year survey. Published by the National Book League, 7 Albemarle Street, London, W1.*

More money urged for micro-training

A major increase in central government funding for training microprocessor technicians at all teaching levels is advocated by the Industrial Council for Educational and Training Technology (ICETT) in its annual report this week.

The ICETT research and development committee has made wide representations to the Department of Education and Science and to the Department of Industry about the way microprocessors are being bought by education and training authorities for teaching purposes without a clear funding and training policy.

The committee has asked for representation on the key committees of the Government programme for microprocessors and for more consultation.

Arts brief

Mr. Neil Macfarlane, Under-Secretary for Education, is to add the area to his existing brief in an effort to remove some of the load from Mr Norman St John-Stevas.

Mr Macfarlane was already responsible for science, research, international education, 16 to 19 provision, and youth and community services.

Prescription for chemists

by David Jobbins

Leicester Polytechnic's school of pharmacy has launched a national experiment to help keep the country's High Street chemists abreast of the latest developments in health care.

Pharmacists have a traditional problem in keeping informed on the minor ailments and prescription needs of the nation. About two-thirds of medicines are taken without doctors' prescriptions and the role of the chemist is therefore vital.

The pharmacy school has produced the first item of a pilot scheme—a full colour booklet on the lungs and respiratory tract—to tell chemists of the latest developments.

The intention is that the scheme will expand to take in a wide variety of teaching aids such as videocassettes and tapes. Each package has associated questions for answer and return, allowing progress to be checked and credit given for the course.

The school had more than 200 applications from within the Trent health authority area alone—and it has now sent out 26,000 letters nationally seeking pharmacists if they are interested. The Pharmaceutical Society has given full co-operation—including £3,000—as "pump priming".

County plans £125,000 cuts

by Patricia Santinelli

Bedfordshire County Council is proposing major reductions in its further education budget rather than cut transport for pupils at denominational and private schools.

The county's education committee proposals to cut further education by £125,000 are to be put to a full council meeting next week although they are in direct opposition to recommendations from the public resources committee which suggested cuts should be imposed on transport.

The proposals are completely out of line with recently announced Government policy in the Public Expenditure White Paper which recommended an expansion of provision of non-advanced further education so as to provide more places for students on vocational courses.

As yet no official indication of where savings are to be made has been given, but Councillor Frank Lester, chairman of the education committee has implied that they would by no means be concentrated in the colleges. They will probably cover the youth and careers services as well as adult education.

The committee is not prepared to go back on its decision and consider any alternatives. Some have already been put forward and have been rejected.

North American News

Foreign students face higher fees in backlash over Iran

by Clive Cookson

WASHINGTON

No college or university in the United States charges higher tuition fees for foreign students at the moment. But this happy state of affairs could be one of the casualties of American anger about the Iranian occupation of their embassy in Tehran.

Politicians in several states have been urging discriminatory action against Iranian students attending public colleges and universities, who are already subject to special investigation by the federal Immigration and Naturalization Service (*THES* November 23).

The two favourite suggestions are that state institutions should suspend Iranian students, or make them pay higher fees. When it is pointed out that such discriminatory action against one nationality would clearly be illegal, the response is often to demand higher fees for all foreign students.

For example, Virginia governor John Dalton was asked by a member of the state assembly to take action against Iranians studying in Virginia. He responded by formally requesting the governing boards of the state's 38 institutions of higher education to "undertake an in depth review of all their policies relating to foreign students, both those on student visas and those on other-entry permits, including tuition and fees, and adopt a comprehensive policy statement which is in the best interests of the institution, the Commonwealth of Virginia and the United States of America".

The governor's letter to the colleges stated: "during the current international crisis it has been brought to my attention that Virginia taxpayers are heavily subsidizing foreign students in our state-supported institutions of higher education and that many of our governing boards have no comprehensive policy regarding admissions, financial aid, tuition and fees and other important facts related to enrolling foreign students."

But at the same time Mr Dalton said: "We should set an example and discourage the harassment of any individual or specific group of foreign students in our colleges and universities."

State systems of higher education in the United States generally have two levels of tuition, one for state residents (an average about $700 a year) and one for students from out of state (averaging about $2,000 a year). The higher level, which is still below the full cost of instruction, is paid either by foreign students or by Americans from other states. (In fact students from out of state or abroad can usually qualify as state residents after a year or two and they pay the lower level).

In Virginia each institution has the legal autonomy to set its own admissions policies and fees, as long as it keeps within the state's "70/30 formula", under which the state contributes 70 per cent of its operating expenses and the college has to raise the remaining 30 per cent through tuition and other fees.

Any decision to introduce a three-tier pricing system—lowest for Virginia residents, middle for other Americans, highest for foreigners—would have to be made by the individual colleges, said the director of the state Council for Higher Education, Gordon Davis. But he agreed that by altering the 70/30 formula the state legislature could probably force institutions to introduce such a system, as the United Kingdom government has forced its recommended fees on the autonomous British universities.

Governor Dalton's press secretary, clarifying his boss's letter, said he was not necessarily advocating higher fees for foreigners, just asking the colleges to consider the possibility. Kansas Governor John Carlin, however, has reportedly said the foreign students in his state should pay more.

"I am afraid we can anticipate a wave of opinions like these", said the executive director of the National Association for Foreign Student Affairs, Hugh Jenkins. "The issue has occasionally come up before, but it obviously wouldn't have come up in this acute fashion if it had not been for the Iranian situation."

Maurice Harari, who is in charge of international relations for the American Association of State Colleges and Universities, said suggestions had been made in Texas and California that foreigners should pay 10 to 20 per cent more for tuition than Americans from out of state.

"One can never be opposed to any scrutiny of policy with regard to foreign students, but I consider it unfortunate that this is happening as part of the backlash of public opinion against Iran. The general indignation against Iran is spilling over to the Iranian students who happen to be in this country and then on to other foreign students."

Meanwhile the Immigration and Naturalization Service has continued to screen the 50,000 Iranians thought to be studying in the United States. Today is the deadline by which all Iranian students should have reported for an INS interview.

After 41,265 students had been investigated, the INS reported that 5,163 had violated the terms of their visas and had been asked to leave the United States and another 3,006 were asked to produce further documentation. Only 653 students agreed to go voluntarily and the remainder of those who are "out of status" will presumably have to undergo deportation proceedings. Another 349 students have requested political asylum.

Hearings on the lawsuit by the American Civil Liberties Union, which charges that the screening process is unconstitutional, opened in the United States District Court in Washington last week.

Testing times for the Chinese

by our North American Editor

At precisely 8 a.m. on July 20, 1978, nearly one million young Chinese sat down in thousands of testing centres throughout the People's Republic of China to begin a three-day national college entrance examination. It was the first nationally standardized exam taken in China since the cultural revolution started in 1966.

The US office of education has published a report on the 1978 examination, containing a translation of its syllabus and of the actual test papers in six of the eight subjects available. They are mathematics, physics, chemistry, politics, history, geography, Chinese language and one foreign language (choice of English, French, Spanish, Russian, German, Japanese or Arabic).

The report contains analyses of the eight subject areas by American experts, who compared the Chinese tests with the knowledge required for college entrance in the United States. They also compared the 1978 syllabus with the one used in 1959, to assess the effects of the cultural revolution on education.

The six million people who took the exam had to sit five or six of the eight papers, including politics, maths and Chinese language. Only 290,000 places at institutions of higher education were available. The pass mark varied according to the province or municipality in which the candidate lived and took the exam. The "cut-off" score for college entrance varied from as low as 54 per cent in some areas up to 74 per cent in others.

"It would probably be no exaggeration to say that analysis of the available data related to this examination may very well provide the outside world with the most revealing clues it can hope to obtain regarding the content of the instructional programme in China's ten-year primary-secondary school system at a time when the products of that system are about to go abroad in sizable numbers to continue their education", the report says.

The American document makes fascinating reading, although it contains no major surprises. The following are some of the subject assessments...

Mathematics: The curriculum "appears classical in conception and more representative of a programme of mathematical studies of 20 or 30 years ago than a contemporary one", writes Frank Swetz, associate professor of mathematics and education at Pennsylvania State University.

"This curriculum, as outlined, reflects almost none of the reforms of the 'modern maths' movement. No mention is made of sets or set concepts, probability and statistics, or algebraic structures and algebraic properties of various operations."

However, he adds: "While the outline's presentation of topics reflects traditional rather than modern educational thinking, the prescribed programme, both in scope and depth, represents a programme of strong mathematical preparation and reflects a high expectation of student achievement."

Physics: "I would characterize the examination as comparable in level and style to a final exam in one of our standard high school introductory physics courses", writes John Layman, associate professor of physics and mathematics education at the University of Maryland.

Chemistry: "The level of content and level of sophistication in the subject are close to those found in high schools in the United States in the 1940s and 1950s", according to Marjorie Gardner, professor of chemistry and science education at the University of Maryland.

"One may conclude from the indications in these Chinese materials that as of 1978 a secondary school graduate from the People's Republic of China would not have as strong a background in modern chemistry, laboratory work and calculations as a representative American counterpart."

History: "The average Chinese middle school graduates perhaps have a better understanding or familiarity with their national history than their counterparts in the United States", wrote Chang-Tu Hu, professor of history and education at Columbia University Teachers' College.

"This is due to the emphasis placed on Chinese history since the Communists came to power. But precisely because of this emphasis, the history of the modern world has been neglected in Chinese schools and when it is taught it is treated only to the extent of supplementing ideological indoctrination."

Geography: the syllabus "Suggests that geographic training and education is more intensive and thorough at the secondary school level in China than it is in the United States", according to Clifton Pannell, associate professor of Geography at the University of Georgia.

Politics: as Michael Lindsay, Professor Emeritus of international service at the American University, put it: "The treatment of this subject shows that the People's Republic of China is a state with a single orthodox philosophy covering all aspects of life. The nearest equivalent to this situation in the West would be the period before the 17th century when Aristotle and Saint Thomas Aquinas were considered unquestioned authorities on all subjects."

A typical essay question from the politics paper is: "Why must countries having a dictatorship of the proletariat practice democracy toward the people and impose dictatorship on the enemy? Criticize the 'Gang of Four's' counter-revolutionary crimes of reversing the relations between the enemy and ourselves and imposing a fascist dictatorship on the people."

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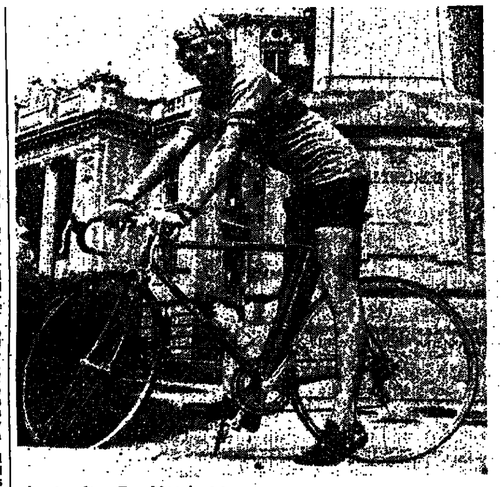


A scene from Breaking Away

Campus film puts Indiana in the picture

For the second year running, higher education has given Hollywood a major box office hit. In 1978 it was *Animal House*, a farce about a student fraternity at fictional Faber College. This year's success is *Breaking Away*, a social comedy set in and around real-life Indiana University.

Both films were "sleepers"—low budget productions, launched without much Hollywood hype, that gradually catch on at the box office and end up taking in tens of millions of dollars.

But that and their college settings are about the only things they have in common. Whereas *Animal House* is populated with a grotesque collection of drunken slobs, intent on wreaking violent destruction wherever they go, *Breaking Away* is a warm, gentle, low-key "little picture" full of friendly faces and virtually devoid of violence. It opens in Britain this month.

No wonder Indiana University has taken *Breaking Away* to its heart. "The kind of PR it has given the university is the sort you can't put a price on", says Jerry Tardy of the IU Foundation, the university's fund-raising firm.

In the summer the foundation hosted previews of the film for IU alumni in 23 cities across the United States, and its annual alumni appeal, launched in October, had the theme "*Breaking Away* is pulling us together".

The foundation mailed posters and publicity about the film to 186,000 households. The number of gifts so far this year is 10 per cent up on 1978, "which has to be attributed to the movie and the renewed enthusiasm for the university", says Mr Tardy.

"It has helped to generate a good deal of esprit de corps, and enthusiasm and pride in the university", says the Director of the IU News Bureau, James Green. "It is a good, wholesome movie, and that has helped its project a good, solid image." IU is now waiting to see whether it increases student enrolment.

As soon as university officials read the screenplay, written by IU graduate Steve Tesich, they realized what a good thing they were on to. Therefore they cooperated fully with the British director, Peter Yates, as he filmed on and around the campus at Bloomington, Indiana.

Many students got bit parts, and IU President John Ryan played himself in a scene in the film. He has 18 lines, telling students' leaders that he is opening up the university's annual bicycle race, the "Little 500", to non-university people from the town of Bloomington. This, he intended to resolve the town/gown tensions around which the plot revolves.

The central conflict between a group of townies, who have just left high school and do not know what to do next, and the wealthy members of an IU student fraternity is handled remarkably well by Tesich and Yates.

Because they do not overdo it, they capture perfectly the resentment felt by the townies—who call themselves "Cutters" after the traditional occupation in Bloomington, working in the surrounding limestone quarries—for the privileged intruders into their community.

Peter Yates is famous for his direction of fast action sequences, like the car chase in *Bullitt*. In *Breaking Away* he concentrates this talent on bicycle chases, which are actually much more exciting and spectacular than they sound.

Somehow, even the film's climax, the little 500, is successful, although it just consists of a bike race round and round a rather shabby stadium in front of thousands of cheering students, and although the result, a triumph against all the odds for the Cutters, is a foregone conclusion.

Indeed the whole plot would seem sentimental and predictable on paper, but the screenplay is so fresh and lively, because every sequence is full of richly documented detail—and plenty of humour.

One deep vein of comedy is provided by the obsession of cutter Dave Scobler, played delightfully by Dennis Christopher, with things Italian and in particular with Italian bicycle racers.

He learns Italian phrases and adopts an Italian accent (with which he successfully woos a beautiful IU student), changes the name of the family cat from Jake to Fellini, sings snatches of Verdi as he shaves his legs, and makes his mother cook what his outraged father calls "IU" food.

The reaction of Mr and Mrs Stohler, solid lower middle class Bloomingtonians, to their son's Italianization are even funnier than Dave's posturing. Mrs Stohler is as unconcerned as Mr Stohler is horrified. She only becomes worried when David crosses himself in gratitude on learning that his heroes, the Italian team Chizano, are coming to race in Indiana. "Oh, Dave, try not to become Catholic on us", she sighs, "your father's quite Protestant".

Yet the Team Chizano eventually pulls Dave out of his Italian phase. He gets the chance to cycle against them, and when he actually turns out to be serious competition for the Italians, one of them eliminates him from the race by making him crash.

Breaking Away has already grossed more than $13 million in the United States, and is still filling cinemas across the country. A television series based on the film is under consideration too.

As the Breaking Away bonanza continues for 20th Century-Fox Indiana University, not content with all the free publicity, is planning to ask the film corporation for a donation. IU wants to raise $2 million to build a new stadium for the Little 500, says Jerry Tardy.

Homegrown liberalism thrives on Potch's Calvinist campus

In the third article in his series on higher education in South Africa, Peter David looks at Potchefstroom University

A small agricultural town buried deep in the dusty Transvaal is the unlikely home of an institution which is rapidly gaining a reputation in South Africa as the troubled conscience of apartheid.

The Potchefstroom University for Christian Higher Education is South Africa's only explicitly Calvinist university and occupies a strategic position in the moral imagination of Afrikanerdom.

Its campus is steeped in the austere certainties and prohibitions of Calvinism. Male students are expected to wear ties in class; dancing on the university premises is not allowed and men and women students cannot use the swimming pool at the same time.

And yet "Potch", which was once nicknamed "the Nationalist Party at prayer", is a measure of the extent to which the tightly-bonded Afrikaans community will tolerate internal dissent. By the stratospheric standards of the Afrikaner, Potch is a homegrown outpost of political liberalism which cannot be shrugged off in the same way as overseas or English-speaking critics.

What gives the academics at Potch their liberal outlook is their zealots' adherence to the precepts of Calvinism. Professor Tjaart van der Walt, the rector, says moral conservatism is the opposite of being reactionary. "We adhere to the true gospel, and this gives us the dynamic to be progressive. The gospel is not married to a particular socio-political structure."

The university's religious scruples have inevitably brought it into conflict with the more odious manifestations of South African race policy. Its influential Calvinist journal, *Woord en Daad* (Word and Deed), has openly criticized the immorality laws barring miscegenation.

Potch was also the first Afrikaans university to throw its doors open to a small number of black postgraduates, and senior faculty members have made tentative criticisms of the Government's black "homeland" policies.

The student body is less daring. About half the 7,000 undergraduates are drawn from the God-fearing farming communities of the central Transvaal; the rest come to Potch because it is "safe"—the only university in South Africa whose teachers are legally obliged to be professing Christians.

Nevertheless, the dogmatic Christianity of the more imaginative students has forced them to ask what are sometimes painful questions about the political system of their country.

"Other universities place their main emphasis on Afrikaans nationalism. Our first priority is Christianity", admits one student union leader. "The question is how to be an Afrikaner without sacrificing my religious principles, since Christianity is meant to be universal."

By Western standards political dissent among students is muted. Asked what caused the 1976 uprising in Soweto, most students reply: "Communist agitators." The more percipient refer to black grievances about Afrikaans-medium teaching. Few are ready to admit that South Africa's blacks repudiate the entire philosophy of separate development.

Staff, too, are reluctant to criticize the regime too sharply, or to make extravagant demands for university independence and academic freedom. "We should not be too closely aligned to any political party. We should study political problems, but provide alternatives not mere sloganeering. We should be actual, factual and relevant," says Professor van der Walt.

In the context of South African politics, however, even this broad definition of university autonomy ruffles the Government's fur. For most Afrikaners, support of any other than the Nationalist Party is akin to treason. And the "Potch outlook", when it has led to very deep criticism of the philosophy of apartheid, has brought swift Government retribution.

A grim reminder of the limits of the Government's tolerance came in the run-up to the 1977 general election in South Africa, when a group of young lecturers at Potchefstroom teamed up with English-speaking Calvinists to produce a controversial treatise called the "Koinonia Declaration".

The aim of the declaration was to define a Calvinist political theory and test political institutions in South Africa against Calvin's principles. In this moral weigh-in apartheid was, unsurprisingly, found wanting.

Publication of the Koinonia Declaration led to an immediate meeting of the Broederbond-dominated university council, which angrily denounced the contents and purport of the declaration. Later a rule was introduced barring students and staff from making contentious political statements without clearance from the council.

Critics of the university say the Koinonia affair led to prolonged victimization of the Potch liberals. Several signatories have left the university and the others have been silenced, despite widespread enthusiasm for the Koinonia declaration among Calvinists abroad.

One of the sternest critics of what has happened recently at the university is Professor Johan Van der Wyver, a former Potch teacher who left for the English-speaking University of the Witwatersrand.

"The liberal outlook of Potchefstroom has been deliberately broken down as the result of Government action as the highest level," he says.

"Potch is the conscience of Afrikaner thinking in the religious sense. But I do not include the university council, because at the moment it is more concerned with the interests of the Nationalist Party than with honest Calvinism. I hope and believe the spirit of the campus will ultimately prevail."

Soweto, 1976. Asked what caused the uprising, Potchefstroom students reply: "Communist agitators."

Lumumba University survives the controversy

from Michael Binyon MOSCOW

The best known Soviet institution for foreign students, the Patrice Lumumba University in Moscow, founded by government decree 19 years ago to "render disinterested assistance to the peoples of developing countries", has been surrounded by controversy.

It has been called a KGB training school, a college for subversion and a propaganda show-piece.

It has survived and flourished and now offers some 6,300 students from 96 countries a full university course and the chance to go on to a higher degree.

It boasts one of the best qualified staffs in the Soviet Union, a surprisingly high success rate, and a number of distinguished graduates who now hold senior jobs in their own countries.

Lumumba was founded with the specific task of educating students from poorer and working-class families in Africa, Asia and Latin America.

It does not take anyone from developed Western countries or people the rector defined as coming from "bourgeois" backgrounds.

They may apply to other Soviet institutions according to bilateral government agreements.

Entry to Lumumba is nominally free of political connexions. Students apply through Soviet friendship societies at home, or trades unions and women's committees.

The recommendations are forwarded to Moscow and the university is empowered to admit whom it wants according to its special criteria.

In some countries competition is fierce. Last year 30,000 people applied in India for 40 places. Acceptance is based on academic and social criteria.

All applicants have to have completed full secondary education, and they can then further selected according to the social criteria: being a Communist Party member is a clear advantage—though does not circumvent the academic requirements.

Foreigners make up only two-thirds of the student body, the rest are Soviet students. Their presence ensures that Lumumba bears some relation to a normal Soviet institution.

Most of them are following interpreters' courses, and at Lumumba have plenty of chance to practise foreign languages.

Many are hoping to work with Soviet development schemes overseas, and their experience at Lumumba is useful in introducing them to the mentalities of the Third World.

The teaching is structured, disciplined, and in some ways old-fashioned. There are weekly tests and work assignments, lectures are compulsory and anyone who falls behind is taken under the wing of a fellow student who is asked to help him along.

This approach, the lecturers argue, is the best in such a heterogeneous community.

The university rejects allegations that its academic standards do not measure up to those of other Soviet institutions.

Some 76 per cent of the staff have doctoral degrees, by above which, the rector said, compared favourably with any world institution.

Science is the main emphasis at the university, and the scientific training includes opportunities to conduct research and learn research techniques.

The curriculum does not differ from that of Moscow State University, though there are special courses on such things as tropical medicine and agriculture. And in such fields as mining engineering there was a need for broader theoretical knowledge in developing countries and so the course was less specialized.

In spirit, as well as content, Lumumba reflects the standard Soviet viewpoint: "The most important quality we try to instill is internationalism", the Rector, Professor Vladimir Stanis, said.

This means inspiring students to work for the good of their country and not for money. Patriotism and internationalism were the university's guiding principles, he said.

Such an important social experiment was impossible in a capitalist country, asserted Dr Stanis, himself a Party member.

Problems down Mexico way

from Emil Zubryn MEXICO

The so-called "brain drain" is taking at least 5,000 top university graduates a year from Mexico, the Ministry of Education has admitted.

The republic is left "holding the bag" as far as expenses for their education are concerned, and deprives Mexico of urgently needed personnel for future economic development, said the Ministry.

At the National University of Mexico, a spokesman said that of every 5,000 students graduating, 2,000 pass with "flying colours", and the rest "barely scrape through".

A university appraisal points out that "in a developing nation such as ours, where knowledge is worth more than gold, we are losing that which we most prize—our top professionals.

"Those remaining, capable of only mediocre activities, are the ones whose hands our technical future rests.

"Without blaming any one in particular, graduates of universities with a heavy record of political activity throughout the country are the ones who also have the lowest grades.

"Medicine, construction or industry attract people: 'I know better than you what you are really up to'? Economists generally have no problems: their disciplinary arrogance carries them along. Sociologists have had to scratch their heads about their own rights to put laymen down.

Dr Giddens, who is 41, looks the typical sociologist. After all he came out of the London School of Economics graduate school and spent several years as a teacher and researcher in the sociology department at Leicester University during its glory years. But his present surroundings give a clue to the breadth of his interests: his study is in a fine eighteenth century set of rooms in the middle of King's College, Cambridge.

Cambridge University has never taken to sociology; it still offers only part of a degree course in the subject and that is called "social and political sciences". Yet the marginality suits Dr Giddens; the best work, he says, is being done on the boundaries of the social science subjects, history and philosophy. And the Giddens path out of the crisis in sociology is to depart from rigid subject boundaries.

He explains: "There is a major transition occurring in the social sciences, and perhaps in intellectual culture generally. It involves currents of thought that cut across previously established subject boundaries." The core problems—philosophical ones—are the same for all the disciplines.

Dr Giddens notes that economics, simultaneously "that most advanced and most retarded of social sciences" cannot much longer maintain its insulation from the gnawing dilemmas of a philosophical and epistemological kind that have afflicted sociology.

Dr Giddens's ambitions for the renewal of social theory have been seen in the three or four major books (such as *New Rule of Sociological Method*) he has produced in as many years: he is a Stakhanovite as well as a scholar. Many of his colleagues still follow him best for his reworking of the greats of modern social theory, Karl Marx, Max Weber and Emile Drukheim.

The way out of sociology's mess has involved going back to the roots. Retrospectively, the project was "three things. One has to examine the legacy of nineteenth-century 'classical' social theory, especially the axis which connects and distinguishes Marx from the other writers of the nineteenth century. The second is to rethink a series of logical and epistemological problems that are themselves a residue of the nineteenth century but impact on twentieth-century social thought. The third thing is to integrate each of the first two with an account of the transformations that are affecting western capitalism today".

It is an uncommon ambition and one which, perhaps, a British thinker is uniquely equipped to pursue. For what distinguishes Dr Giddens has been his ability to swing backwards and forwards between straight American sociology—the work of Talcott Parsons in particular—and the entirely different traditions of social thought of France (the "structuralists" for example) and Germany (especially the "critical theory" associated with the Frankfurt School and recently with Jürgen Habermas).

Dr Giddens is diffident about his own distinctiveness, "I think there are quite a lot of people working in this country who have a good knowledge of American social sciences—I prefer to speak of the social sciences as a whole, including politics, anthropology and to a certain extent economics—but who are also closely in touch with Continental social theory. That is potentially quite a fruitful mix, and is what I've been trying to do."

Out of Babel has come a marriage of the different traditions of thought in Europe and in the English-speaking countries. "There is this remarkable division between English-speaking philosophy—mainly concentrated (as far as it has interested me at any rate) on problems of the philosophy of action—and the problems in Continental thought. The latter has been much more closely connected with existentialist themes, that is, things the lay person thinks of when he or she thinks of what philosophy is about, problems of the very fundamental nature of existence; and secondly with the theory of the text.

"A striking contrast: between the Anglo-Saxon philosophy of action (think of people such as Austin) founded on the use of words, and Continental philosophies centred on the text and textual analysis. I find that a useful complementarity and in *Central Problems*, I try to show how you can transcend both, but also link the two."

All of which sounds a far cry from down to earth traditional British sociology, the affluent worker and so on. It is. And there is a "Giddens problem" attached to the fact that he has left sociology for these wider pastures. Why does a social theorist like him remain largely unknown in the wider intellectual culture of Britain, or even within the other social sciences to which he hopes to make a contribution?

From conversation, several reasons suggest themselves. One is the density and allusiveness of his style of writing. Dr Giddens is very Cambridge in making few allowances to those not as well versed as he is in the books of reference—be they written in English, French or German. Few of his fellow sociologists would, for example, drop in an aphorism of Reiner Maria Rilke's without blushing.

Another good reason is that Dr Giddens shares the habit of his fellow British sociologists in continually looking over his left shoulder—to conduct a dialogue with the Marxists. It is as if an anterior agreement has been made within sociology that made Marx the starting-point for all debates on the way out of the crisis.

Dr Giddens says: "Marxian analysis of modern capitalism as a class system is crucial for understanding the modern world"—and the view would no doubt be shared by a great many British sociologists (and French and German but not American). But it takes a little effort to get from Dr Giddens the accompanying statements: (a) that sociologists have not studied the societies set up in the name of Marx as much as they should; (b) that capitalism is not all bad, in fact it remains a "progressive force in history"; and (c) that socialism as an idea and as a fact "need a great deal of analysis".

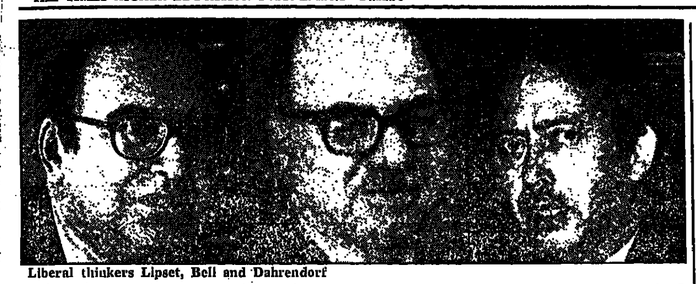
If, as Dr Giddens is prepared to argue, a necessary connexion exists between sociology and socialism, it is not surprising that the voices of sociologists like him are missed from the wider debates both of social science and of the intellectual community.

Dr Giddens makes an important qualification to this. "Sociology is not just the writing of propaganda; in other words, one of the points of doing social analysis is to be able to provide a forum for debate between people of different political persuasions, which is, I think very, very important."

He goes on, inadvertantly doing a grand job of explaining why his book deserves to be widely read: "The phenomenon of our times is the significance of the social sciences as such a forum—but a double-edged phenomenon because the social sciences can easily become harnessed to serving the instruments of domination, which has happened to Marxism in eastern European countries."

* *Central Problems in Social Theory: Action, Structure and Contradiction in Social Analysis. Macmillan. £10.00.*

Anthony Giddens on Raymond Williams, page 11.



Liberal thinkers Lipset, Bell and Dahrendorf

Sociology's 'theoretical Babel'

David Walker talks to Anthony Giddens about his new book on social theory

Remember the "coming crisis" of western sociology spotted circa 1970? It came. And lingered. As an intellectual endeavour sociology is in fairly general disarray. In Britain, ethnomethodologists, critical Marxists, common or garden social researchers all slug it out.

Meanwhile the subject's elders, Its Dahrendorfs and Halseys, bemoan the absence of sociology from the corridors of power (distancing themselves carefully from those of their profession who turn up at annual conferences of the British Sociological Association in punk dress with their hair dyed bright orange).

"Theoretical Babel" is how Dr Anthony Giddens sums it up in his newly-published book, *Central Problems of Social Theory**. In the book, the latest of an extraordinarily ambitious sequence of books promising nothing less than a "radical reconstruction" of the subject, Dr Giddens offers a way out of Babel.

For all the dissensus, sociologists know a rising star when they see one, and Dr Giddens has been acclaimed in both Britain and the United States as a scholar of heroic stature—"brilliant powers of analysis", said the British Journal of Sociology. Yet it remains to be seen whether sociologists will follow the path out of their theoretical confusion that Dr Giddens is offering them.

For the path which is intended to lead between liberalism on one side and Marxism on the other eventually leads over a precipice: the abandonment of the very idea of sociology as a separate discipline. Indeed as Dr Giddens said recently: "I've never really felt I've worked just within a subject that can be clearly delimited and called sociology," which from the author of *The Class Structure of the Advanced Societies* is an interesting statement.

With practical social research, Dr Giddens has no quarrel. It is the pretence to a disciplined theory underpinning the research—sociology—with which he quarrels. Sociology is tainted for two sets of reasons. One is sociology's association with the mistaken description of modern industrial society made by liberal thinkers such as Daniel Bell, Seymour Martin Lipset and Ralf Dahrendorf, together with the Marxist way of understanding society by ascribing aims and purposes to social entities and so effectively rubbing out people as individuals. Discontent with these ideas produced the "coming crisis" espied by the American sociologist Alvin Gouldner.

The second set of reasons—elaborated in Dr Giddens's book—has to do with recognizing that any attempt to understand how society works, whether it is called politics, anthropology, economics or history, first has to get to grips with a package of philosophical problems. At the heart of these problems lies a very simple but very complex question: How legitimate is it for the social scientist to say to ordinary people: "I know better than you what you are really up to"? Economists generally have no problems: their disciplinary arrogance carries them along. Sociologists have had to scratch their heads about their own rights to put laymen down.

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From conversation, several reasons suggest themselves. One is the density and allusiveness of his style of writing. Dr Giddens is very Cambridge in making few allowances to those not as well versed as he is in the books of reference—be they written in English, French or German. Few of his fellow sociologists would, for example, drop in an aphorism of Reiner Maria Rilke's without blushing.

Another good reason is that Dr Giddens shares the habit of his fellow British sociologists in continually looking over his left shoulder—to conduct a dialogue with the Marxists. It is as if an anterior agreement has been made within sociology that made Marx the starting-point for all debates on the way out of the crisis.

Dr Giddens says: "Marxian analysis of modern capitalism as a class system is crucial for understanding the modern world"—and the view would no doubt be shared by a great many British sociologists (and French and German but not American). But it takes a little effort to get from Dr Giddens the accompanying statements: (a) that sociologists have not studied the societies set up in the name of Marx as much as they should; (b) that capitalism is not all bad, in fact it remains a "progressive force in history"; and (c) that socialism as an idea and as a fact "need a great deal of analysis".

If, as Dr Giddens is prepared to argue, a necessary connexion exists between sociology and socialism, it is not surprising that the voices of sociologists like him are missed from the wider debates both of social science and of the intellectual community.

Dr Giddens makes an important qualification to this. "Sociology is not just the writing of propaganda; in other words, one of the points of doing social analysis is to be able to provide a forum for debate between people of different political persuasions, which is, I think very, very important."

He goes on, inadvertantly doing a grand job of explaining why his book deserves to be widely read: "The phenomenon of our times is the significance of the social sciences as such a forum—but a double-edged phenomenon because the social sciences can easily become harnessed to serving the instruments of domination, which has happened to Marxism in eastern European countries."

* *Central Problems in Social Theory: Action, Structure and Contradiction in Social Analysis. Macmillan. £10.00.*

Anthony Giddens on Raymond Williams, page 11.

Irish in spending protest

from John Walsh DUBLIN

The Union of Students in Ireland (USI) has just ended its biggest series of the by now annual protests against government policies on higher education spending.

Lecture boycotts and rallies were held in most cities throughout the Republic and for the first time there was solid trade union support for the demonstrations.

The Irish Congress of Trade Unions sent a speaker to address a mass meeting outside Leinster House where the Oireachtas (parliament) was in session.

The congress representative, Dalton O'Donnellan, called for a radical redistribution of the tax burden and the reintroduction of a wealth or resource tax.

This would allow for more public expenditure on job creation, social services and education, he told students.

The Irish Federation of University Teachers issued a joint statement with USI criticizing tuition fees, cuts and "inadequate" higher education grants, both of which they said restricted access to third-level colleges.

These resolutions were judicious when one considered that proportionately less people get into higher education in Ireland than in other EEC countries, said their statement.

USI's slogan of "Education is a Right, not a Privilege" won support from other unions and tenants groups, who backed in particular demands for a better grants scheme.

Last year 5,848 of the Republic's 36,798 higher education students were on grants and this was actually fewer than were on grants in the previous three years.

The drop was due to the fact that more parents of children, who qualified on educational grounds for the grants, had passed beyond means test limits for payment.

The value of the grants varies according to the income of parents and whether or not a student is living away from home.

The basic minimum covers the full cost of tuition fees, on average £300 a year in university, while the student maintenance element ranges from nothing to £600 a year.

Swaziland the host as status increases

from Carol Constancon MBABANE

Swaziland is to host the 1980 biennial conference of the African Adult Education Association—a sign of the growing importance of adult education in the small landlocked country.

The Nairobi-based association brings together most of the Continent's adult education organizations. Next year its focus is on environmental education, and Swaziland, where the teaching of appropriate skills to unschooled adults is the greatest challenge facing educators, is an ideal venue.

Education, as a tool of development is axiomatic in most third world countries, but in Swaziland the emphasis has been on formal schooling, and adult education has occupied a relatively insignificant position in the country's development strategies.

But according to Professor Isaac Ojok, Secretary of Swaziland's Council for Adult Education (SCAE), the Swazi Government is now taking a closer look at adult education.

The Council was formed in June last year to oversee adult education and to integrate the grassroots activities of the various government departments—mainly health and agriculture.

"Only when adult education is pulled into the mainstream of development programmes will the efforts of different groups involved be made meaningful", says Professor Ojok.

Literacy training is one of Professor Ojok's main concerns. He estimates that 90 per cent of Swaziland's adult population of 500,000 cannot read or write.

He includes the "higher illiterates" those who no longer use the skills they once learned at school.

Passport withdrawal stops Harvard visit

from Martin Plaut JOHANNESBURG

A University of the Witwatersrand academic and a Soweto educationist have been refused passports to visit Harvard University.

Professor Rashid Motala, of the University's department of adult education and Mr Fanyana Mazibuko, secretary of the Soweto Teachers' Union Committee, had been invited by the President of Harvard, Prof Derek Bok.

Mr Peter Hjorth, the university's political projects officer was also invited. They were to have assisted Harvard's plans for South African students at universities in the United States, and were scheduled to leave at the end of last month.

The department of the interior said it was not government policy to give any reasons for passport refusals.

Prof Motala, a noted author and educationist was a professor of English at the University of Ife, Nigeria. He returned to South Africa in 1977 after a 20-year self-imposed exile in America.

The Bishop attacked the government's racial "tic", describing it as "yet another illustration of the retarding of the development of educational development for blacks.

Trade unions: the missing link in the Finniston Report

In its 23 months of considering the ills that afflict British manufacturing industry, the Finniston committee received a plethora of differing complaints about the various reasons for our recent economic decline. In that time, 700 written submissions were presented, more than 5,000 people attended special meetings and discussions, more than 100 full committee meetings were held and more than 180 working papers were generated.

This produced a wide range of views and many of these have subsequently formed the basis of the recently revealed Finniston report. But little attention has so far been given to one vital problem and the committee's response to it. It is the question of dealing with engineers and their involvement in trade union activities.

Part of the difficulty has stemmed from the reluctance of the professional engineering institutions to help members press for better salaries, although some have set up services offering legal advice on health and safety and others have published regular surveys of engineers' pay and employment.

Admittedly, when the proposed new stringent registration and qualification standards are introduced in the wake of the Finniston proposals, there will be added pressure on the institutions to extend their services to their subscribers. However, it can be firmly predicted that most engineers will increasingly turn to the trade unions for help in securing better material standing.

But the use of trade unions by professional engineers is a controversial matter for many people in industry. For instance, in its evidence to the Finniston committee, the Engineering Employers Federation stressed that although it did not oppose union membership, it saw no reason for professional engineers to seek such status.

Not surprisingly, the trade unions did not agree. They proposed three main advantages for membership.

- It would be beneficial for engineers individually and collectively;
- It would benefit the trade union movement by extending its influence and understanding of technology;
- It would strengthen engineering in industry and so improve industrial performance.

And although the institutions felt themselves precluded from union activities, they still backed membership. The Council for Engineering Institutions issued a statement—"A professional engineer has a legal right to join a union; he does not contravene his code of conduct by so doing. He should have absolute right to join the union of his choice or none at all if he prefers".

Indeed, this statement reflects the present state of affairs, as increasingly engineers are joining unions. The CEI survey of 1975 revealed that 37 per cent of chartered (or professional) engineers were trade union members. By 1977, the figure had reached 44 per cent.

But these statistics conceal a more interesting trend—for the real increase in membership has been exclusively contained in the private sector, although still only 20 per cent of these engineers are members.

Two factors underly this trend. Firstly, professional engineers have seen their salaries and status differentials being constantly eroded compared with other skilled and unskilled workers. This has been attributed to the power of their trade unions.

Secondly, the trade unions—responding to a more positive approach to them—have begun to organize and recruit more actively among professional engineers.

However, this tendency has highlighted two main difficulties in turn. There is concern that the interests of professional engineers will be overridden by the greater numbers of other non-professional union members and there is also fear of a possible conflict between the engineer's professional obligations and his interests as a trade unionist which might require strike or other industrial action.

However, the Finniston report indicates that most trade unions pledged that they were organized to protect professional engineers and managers and had separate policies for them during disputes. "The steady increase in the level of unionization of engineers suggests that most believe that their particular interests are adequately catered for, while their rare direct involvement in strike action suggests that their professional responsibilities are rarely if ever compromised".

The report goes on to point out that trade union organisation among engineers is now a fact and is likely to increase. But it warns that the proposed new code of practice for engineers should not compromise this trend with their professional responsibilities.

"This code should be framed so far as possible to protect the individual engineer from having himself to resolve any conflict which may arise between his union loyalties and his professional responsibilities, especially in respect of public health and safety, with the appropriate sections drafted after consultation between the authority, the TUC and other concerned parties", it adds.

But the report goes on to warn that the new Engineering Authority, which will supervise all aspects of engineering in Britain, should be ready to intervene when problems arise over the application of the code of practice during an industrial dispute.

Robin McKie
Science Correspondent

The Mark Three Brookings notion comes into view

Peter David on the latest proposals for a social research institute

Like old soldiers, good ideas do not so much die as fade away. The good idea that Britain should have a top-class social research institute like the Brookings Institution in Washington has been fading away regularly for years, but whenever it appears on the verge of total extinction, something happened to kick it back into life.

Usually it resurfaces in a new guise. In the summer of 1977 the talk was all of a "British Brookings" with funding from the Ford Foundation, the Social Science Research Council and other trusts. A year later, when that idea had finally collapsed, attention shifted to a "European Brookings" funded by the European Community and the Ford Foundation, but independent of member governments and free to criticize community policy.

Now that the Euro-Brookings looks as if it is going the way of its home-grown predecessor, a third incarnation emerged this week with news that the Science Research Council and the SSRC are to cooperate in a venture to set up a unit to study the impact of technology on social and economic life.

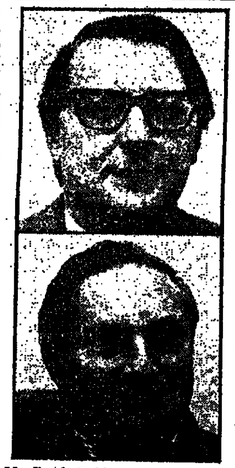
If the idea for a transatlantic Brookings is a good one, why does it never translate itself into reality? And if it is a bad idea, why does it persistently force its way on to the social science agenda? The answers to both questions contain uncomfortable truths about the way British social research is organized.

One reason for the persistence of the Brookings idea is that nothing quite like Brookings has ever existed in this country. The Washington institution was founded in 1927 when academic foundations merged to create a unique network of politicians and intellectuals with the knowledge and money to change the way American governments thought about their social and economic policies.

Over the years its claim to be impartial has been weakened by its image as a government in exile, the haven of homeless Democrats when the wheel of political fortune turns. But the traffic between government and academy has given Brookings an aroma of power which British institutes have never acquired. It is the knowledge that in Britain independent research does not much matter, and the hope that with a Brookings it could be made to matter, that keeps the idea alive.

A "British Brookings" seemed almost to have become a reality in July 1977, when the SSRC agreed to make its biggest ever investment in a single project and earmark £2m to endow a new institute for policy studies. The council envisaged an institution with about 40 researchers in post by 1980. A statement said the institute would conduct research in housing and education transport, the interaction of social and economic policies and government structures and systems.

Mr Derek Robinson, then chairman of the SSRC, decided to rely largely on secret diplomacy to put the finishing touches to the project. The remaining tasks were to raise another £3m from private sources and persuade academics and civil servants to cooperate in the venture. Early success came with an agreement by the Ford Foundation to stump up another £1m, but that was as far as Mr Robinson could go. The other foundations, many academics and most Government departments were not persuaded.



Mr Derek Robinson (top), former chairman of the Social Science Research Council, and Mr Michael Posner, his successor.

Why not? Mainly because, almost by definition, the British Brookings threatened too many vested interests. What America had and Britain wanted was a group of researchers with access to government and influence over it. The monolithic British government departments, with their career civil servants, could hardly be expected to conspire in the diminution of their own authority.

Even more important was the threat the British Brookings was thought to pose for existing policy study institutes. Britain already had a Centre for Studies in Social Policy, a National Institute for Economic and Social Research, a Royal Institute for International Affairs and Political and Economic Planning, all of which could claim to be doing Brookings-type research and competing for the same scarce endowments. The "gang of four" feared the arrival of an affluent competitor which could eclipse their own work and siphon away their resources.

In March, 1978, these fears took on a concrete shape when two of the most threatened institutes — PEP and CSSP—merged to form the Policy Studies Institute. Sir Monty Finniston, its new chairman, left journalists in little doubt that the merger was a pre-emptive stroke designed to scotch the British Brookings.

It worked. The SSRC soldiered bravely on for three months before confessing that it had failed to raise enough money from private sources. The £3m that had been provisionally earmarked by Ford and the council itself were no longer available. Derek Robinson admitted despondently that his strategy had failed and the chances for a radically new type of institution had vanished.

Since then hopes for a British Brookings have faded and attention has turned to Europe, where the DEC members and the Ford Foundation believe, or did until recently, that it might be possible to set up a large research institute funded partly by the community but retaining sufficient independence to criticize its economic and social policies. Until the Conservative election victory in May Britain, and particularly Dr Bernard Donoughue, Mr Callaghan's head of policy research, was an energetic advocate. Now Mrs Thatcher appears to be ready to scrap the scheme her predecessors fought for.

True to form, however, the Brookings idea is not quite dead. The Science Research Council said the Social Science Research Council entered the lists this week with a new proposal for a British institute confined to the study of the social and economic impact of technological change. Mr Michael Posner, the SSRC's new chairman, has been careful to avoid the political mistakes of Mr Robinson, and the circumstances are more propitious.

The main existing institutes have this time been consulted in advance and reassured that the new venture will rely initially on its own endowments and not compete for scarce funds. They have been mollified, too, by the large stake held in the proposed institute by the Science Research Council, and by hints that the institute might devote a substantial proportion of its own budget to contracting work out to other bodies.

Troubling questions remain, however. How far will the new unit overlap with the existing Science Policy Research Unit at Sussex? Will its director be a natural or a social scientist? Above all, will we be able to transcend the intellectual rigidities and institutional rivalries which have so far been able to keep a good idea down but not out?

The gradualism of gratuatism

John O'Leary reports on the difficulties faced by those who are trying to raise teaching standards

The near-universal welcome which greeted the last Government's announcement of measures to introduce an all-graduate teaching profession may be ringing a little hollow for some as the theory turns into reality. For, while the principle remains accepted by the main protagonists, there are obvious teething troubles at this early stage of the change-over.

Difficulties are being encountered both by those responsible for ensuring reasonable teacher supply and by students caught in the transitional period on obsolescent courses. In addition, the raising of entry standards is likely to have the side-effect of creating a void for a sizable number of sixth-formers who would normally have come into higher education through Certificate in Education courses.

Teacher training has been a high-risk occupation for so long now that students' bleak employment prospects tend to go unnoticed. Yet, just as numbers qualifying are dropping and those completing postgraduate courses in particular are finding teaching jobs more easily available, a new cohort of aspiring teachers face an uphill struggle.

In a market still over-provided with applicants, most of whom are now graduates, certificate-holders find themselves at a severe disadvantage and more than ever need to convert their qualification into a BEd. However, hundreds of students are now finding this traditional course closed to them as new BEd courses take over completely from those which allowed for an extension of the Certificate or the conversion of an ordinary degree into honours.

Most attention on this question has been focused on the London colleges, which have the largest concentration of Certificate students. The decision by London University to withdraw the old BEd Part II, first taken in 1975 and finally confirmed in October, has deprived up to 1,500 students of their normal route to a degree. Although re-sits and examinations for in-service candidates are to continue for three years, it has been decided that the administrative load of examining two separate BEds was prohibitive.

Protests from students, MPs and the colleges themselves have been to no avail. Even the intervention of Dr Rhodes Boyson, Under-Secretary for Higher Education, who wrote saying that he "felt some sympathy with the students concerned", and hoped for an early solution to the problem, did not alter the outcome. The Academic Council of the university considered the potential damage to the students' career prospects warrant a change of heart and advised the students to consider alternative routes to a degree, such as in-service courses.

The university pointed out that all students now on certificate courses should have been aware of the circumstances from the start, the original decision and the first reconsideration both having taken place by 1976. "If there was any sins of omission, they were not on the part of the university", a London University spokesman said. "It was decided in good time that to continue with the BEd Part II would inflict harm on the new degree."

All this is no consolation to the students, who claim that some had joined courses on the understanding that the decision was likely to be reversed and are now virtually unemployable. They see the offer of conversion to degree status via in-service courses as a Catch 22 option since they need a degree to get a job but would need a job even to be considered for this type of degree course.

The position is repeated in other parts of the country, notably in Manchester, and students are becoming resigned to the abandonment of conversion courses. Although the Council for National Academic Awards has made known its willingness to validate suitable courses, only Huddersfield Polytechnic has taken up this option so far and students are worried that there could be problems with grants if a four-term conversion is required.

Already applications for next year's courses, half of which are normally in by this time, are 25 per cent down. It is generally accepted that the Government's target of 9,900 for BEd courses cannot be met and, with the birth rate beginning to rise once more, there is inevitably fears for teacher supply in subsequent years. Although recruitment for Postgraduate Certificate in Education courses is holding up well, encouraged by the news that jobs are easier to come by, these students mostly enter secondary schools, still leaving the primary sector vulnerable to a continuing increase in births.

While uncertainty reigns, a new generation of school leavers is finding their traditional looks into higher education blocked by stiffer entrance qualifications. Those with one A level and/or without Mathematics O level, many of whose successors have gone on to achieve good degree results, are now in the cold. Although their plight hardly constitutes a reason for resisting the introduction of justifiable safeguards on the capabilities of future teachers, the need for an alternative programme for them within higher education is becoming obvious.

Paramedics' report aims to put adrenalin into degree process

David Jobbins examines the findings of a working party set up by the Council for Professions Supplementary to Medicine

Plans for the eight paramedical professions to accept degree studies have been slow in developing and being put into practice.

Now a new report from a working party set up by the Council for Professions Supplementary to Medicine has tried to inject a greater sense of urgency into the process.

The report suggests that degree qualifications are of real benefit to patients. They lead to improved information and advices, and add to the corporate development of the professions. But it admits that introduction of degree studies on any scale will not be easy.

The working party concedes that in some professions it might prove impossible to satisfy degree validation criteria. These may be the professions involving activities of a very practical nature. But only since this impossibility is established should greater flexibility in quality and recruiting processes by seeking validation through bodies such as TEC and SCOTEC.

The key problem is the development of existing profession, and in particular the vocational teachers to an academic standard required for degree courses.

To overcome this the working party called for a closer association of vocational teaching with higher education institutions.

As a first step the working party has called on the professions to look into the likely need for an all or part-graduate profession.

The studies should focus first on the prospects for a vocational degree and then go on to cover post-graduate and other forms of degree and higher diploma.

The working party has recognized that time is short. Failure to take advantage of the forthcoming rationalisation of higher education could mean the loss for the next 15 to 20 years of the resources required for improvements in professional education, it warns.

"A deliberate study now would be aimed at preserving and extending opportunities."

The argument for and against introducing degree studies to the supplementary professions has raged at varying levels of intensity for some time. Why have graduate chiropodists, radiographers or physiotherapists at all? In almost every case the eight professions lean more heavily on practical skills perhaps on an innate nature rather than on acquired knowledge.

The working party, which heard evidence from many quarters, was able to summarize the pros and cons.

The arguments in favour of degree range from the enhanced opportunity to develop professional knowledge systematically and establishing a sound base for research to recruiting future recruitment.

Against this it was suggested that degree studies alone were no guarantee of the necessary empirical approach; that the decline in the 16 to 24 age group in the 1990s would make the relative attractiveness of degrees unpredictable; and to restrict entry to the profession to degree-standard recruits would bar people with lower academic skills who nevertheless exhibit all the other traits necessary for a caring profession.

Among the factors which some chiropodists believe would be put at risk by degree studies, it is said that the high degree of manual dexterity necessary for cutting down on pain is not restricted to the academically advanced.

But the working party says that graduate studies would actually enlarge the pool of academically qualified applicants among whom would be an adequate number of dextrous ones.

The report says there were "misgivings that a degree education would create professionals neither instilled with caring attitudes nor equipped for finding satisfaction in the practical side of patient care, finding it too menial."

There is a greater degree of progress in occupational therapy where the first degree proposals are also in preparation. In addition the discipline is one of those covered by a post-registration first degree at the Polytechnic of Central London approved by the Council for National Academic Awards in August. The Occupational Therapists Board has decided in favour of an all-graduate profession but has yet to fix a date for it to come into effect.

Radiography is essentially a practical rather than academic skill and the working party admits that there is therefore some doubt about it ever becoming an all-graduate profession. But there is exploration of the prospects both for a vocational degree and a degree in radiation studies.

Discussions about a degree relevant to the orthoptic profession have only recently got under way while the Institute of Medical Laboratory Sciences has considered that there may be difficulty in finding a "suitable" entrance qualification.

PSM: Education and Training—The Next Decade, published by the Council for Professions Supplementary to Medicine.

Britain is not alone in facing cuts, staff stagnation and falling rolls. Simon Midgley reports.

Canada counts the cost of a sharp drop in student numbers

The character and scope of Canadian higher education in the 1990s hinges on how universities manage to cope with the imminent threat of a sharp fall in student numbers.

Massive staff redundancies and some degree of institutional contraction, dislocation and re-orientation are probably inevitable.

Just how traumatic this experience turns out to be will depend on the success of contingency plans currently under consideration and on the level of financial support provided by host provincial governments.

Up until recently it had been thought that permanent decline in student enrolment in the majority of universities had already set in, despite the fact that the 18-24 age group from which 80 per cent of post secondary students are drawn was still increasing.

Lately however there have been signs that this earlier than expected enrolment decline has been halted and informed observers now believe that numbers will stabilize over the next three or four years.

The real crunch will come when the traditional post secondary pool begins to shrink in the early 1980s. A 21 per cent fall in size of the age cohort will reduce numbers to 2.7 million by 1996.

Unless the participation rate increases (i.e the proportion of the 18-24 age group which opts for higher education) or the universities attract a new clientele, there are unlikely to be enough students to go round to justify preserving higher education at its present level.

Although political considerations make it improbable that any institutions will be allowed to close, many could shrink.

Alberta and British Columbia are unlikely to experience any drop in overall numbers because continuing immigration from other provinces means that their populations are still expanding.

Universities in the other eight provinces however may have to shed up to 6,000 staff and battles with faculty over redundancies are predicted in almost every institution.

The Council of Ontario Universities has projected that if enrolment declines as predicted the province's universities will have to lose 600 academic posts alone. (The council projects a 22 per cent (2,550) academic staff reduction if university financing continues at the same level.)

Junior members of staff are most at risk because by the time the cuts bite most senior academics will be protected by tenure.

In the short term there will be little or no room for rejuvenation of the faculty body because few appointments will be frozen. Fresh ideas and young talent will be excluded and there is a danger of intellectual stagnation.

There is also the problem of a slowly and relatively evenly ageing professoriate. By 1995 when the 18-24 age group starts expanding again there is likely to be a wave of retirement and there are fears that in the period of contraction Canada will have decimated its graduate schools.

If there are no young faculty waiting in the wings then Canada may well be faced with a recurrence of the situation she faced in the 1960s when large numbers of academics had to be recruited from abroad.

Also, that in most provinces university incomes are linked to student numbers, there are also dangers to research. If numbers of academic staff fall then the volume of research being conducted will shrink.

Also, although there is direct funding of research at the national level via the research councils, generally specific grants for particular research tasks make no provision for overhead expenses and these are paid by individual universities.

As there are no specially earmarked funds for research at an institutional level the money has to come from general income. If this shrinks then the universities' ability to meet overhead costs diminishes.

The enrolment decline could also significantly affect the ability of smaller Canadian universities to maintain their range of courses.

Should the situation deteriorate to such an extent that certain subjects are at risk however there is increasing likelihood that attempts will be made to rationalise provision within individual provinces if not nationally.

Already high youth unemployment and increasing uncertainty about the "value" of a liberal education have encouraged many students to opt for vocational programmes in colleges or specialised training schools rather than enter traditional arts and science schools.

Although there are signs that the decline in arts and science enrolments in Ontario have been arrested, there has been serious concern in some quarters, for example, the University of Toronto, that the institution's academic balance could be threatened by the marked shift in student preference towards professional programmes at a time of declining enrolments.

Fears have been expressed that seriously depleted arts and science faculties could undermine the traditional liberal idea of a university.

Currently most universities are experiencing a period of financial austerity. If this continues into the 1980s, as seems likely, the difficulties of adjusting to a shrinking clientele will only be exacerbated.

One of the major reasons for the sense of crisis in Ontario's universities is that the system has found it difficult to adjust to enrolment declines (1977-79) at a time when institutional incomes have not been keeping up with inflation.

Throughout the federation universities are having difficulty in balancing their budgets because most provincial governments are restricting real university incomes below the level of inflation.

This is partly because there is less money around (Canada is experiencing an economic recession in common with the rest of the industrialized Western world) and partly because there has been a discernible shift in provincial spending priorities over the past 10 to 15 years away from education to health and welfare.

This reflects a growing disenchantment with the alleged benefits of higher education, a disillusionment fuelled by the much-repeated myth that unemployment is particularly high among graduates (it is not) and the criticism of the academic community of supposed defects in the ability of graduates to communicate or to put theory to work.

Some universities have been hit harder than others. For example, last year Alberta's universities received an 8 per cent increase while Ontario's got only 4.8 per cent. Inflation meanwhile was running at 8 or 9 per cent.

It is not only that provincial ability to fund higher education varies but the willingness of regions to maintain funding levels differs.

Oil-rich Alberta has recently invested $300m in a fund for medical research (about half the total spent by the federal government on medical research) whereas in relatively impecunious Nova Scotia a serious argument has been raging as to whether the provincial government is actually spending any of its own money on universities.

Nor is there any direct correlation between ability to pay and willingness to pay. Thus Newfoundland, one of the poorest provinces, has a better record of spending on higher education (it only has one university) than Ontario, one of the richer provinces.

Relatively recent changes in the way that universities are funded have also made it harder to know whether federal monies are actually being spent by the provinces on higher education as intended.

Eighty per cent of university income is spent on salaries. This proportion is currently increasing at the rate of about 1 per cent per annum and one of the ways in which the money is being recouped is by restricting the amount of cash available for salary increases for administrative staff.

Thus in recent years the rate of increase for academic staff has been 8 per cent per annum while that for the administrative staff has been four.

There is also the problem of the "ageing professoriate". Although teachers' average age varies among fields, the group as a whole has aged slowly. In 1958-59 the average was 38.9; by 1976-77 it had risen to 41.4.

This means that the proportion of money being spent on salaries will increase because many academics are just being appointed to senior posts which carry higher salaries.

Many universities have been steadily eating away at non-salary expenditures like library books and research equipment in many institutions is already threatened with obsolescence.

Restricted funding also carries serious implications for research. Not only will universities be forced to reduce faculty and staff, but very few new scientists or researchers will be able to find posts.

Most faculty members and government research scientists are aged below 45.

In a white Paper last year the Ontario Council on University Affairs spelt out the stark implications of this situation: "Because of the skewed age distribution and because of restricted funding for research in general and the universities in particular, Canada faces the serious problem of having a whole generation of scientists with no place to use their talents."

Just how the universities manage to cope with this problem will partly determine their ability to meet the more serious challenge of declining enrolments in the early 1980s at a time when austerity will have probably deepened.

Given Canada's geographic, economic and social diversity the precise nature of the problems experienced are likely to vary from region to region and because education is a provincial responsibility the solutions are also likely to differ.

Up until now there has been little institutional or systems planning taking place. Planning is currently done on a yearly basis and cutbacks are being handled in ad hoc fashion. This approach is a source of increasing concern for many Canadian educationists.

Dr Charles Pascal, chairman of the Ontario Institute for Studies in education's higher education group, has pointed out: "Removing lightbulbs, closing libraries early to save on utilities and support staff, cutting back on instructional improvement and student counselling programmes, non-refilling of those on one-year contracts and firing a few secretaries and the like, will be as effective as cosmetic surgery is for heart disease."

Respect for "academic autonomy", he says, actually tends to reinforce this tendency towards survival decision making rather than question it.

The structure of Canadian institutions, Dr Pascal points out, also makes institutional and system-wide dialogue on goals and priorities difficult.

More and more institutions are however, coming around to the idea that they ought to have some form of long term plan for the crisis period. At least in trying to elaborate such a plan they will be forced to look at the consequences of various courses of action.

There is a growing consensus of opinion in Canadian educational circles on the kind of solutions that will need to be applied.

Universities are financed on the volume of work done. As the 18-to-24-year age group shrinks it is generally agreed that institutions are likely to find themselves in increasingly fierce competition for the diminishing numbers of traditional students.

There will therefore be mounting pressures to discover new client groups. Although the extent to which universities are successful in selling part-time education to the adult population is regarded as crucial by some educationists, there is considerable scepticism in other quarters about the scope of this option.

The Council of Ontario Universities, for example, believes that the one area where continuing education could have significant resource implications for the universities is that of the upgrading of the professions.

If the Government or one of the professional certifying organizations were to decide that lawyers or teachers, for example, should be issued professional licences for a fixed spell, which could only be renewed after a compulsory spell of refresher study, this would provide an enormous amount of work for the universities.

On balance, although it is probably true that new client groups will help to mitigate the effects of falling numbers, they will not prevent institutions from shrinking in size.

In order to shrink without endangering the range and diversity of academic provision there are likely to be increasing pressures to coordinate activity between universities in a particular province to reduce costs and avoid the dangers of duplication.

Although no institutions are likely to disappear, some satellite campuses could close or merge.

In recent years there has also been a growing tendency for all Canada's institutions of higher and further education (universities and community colleges) to try to be all things to all men.

This has led to creeping elitism in the colleges and signs of universities trying to appeal to groups that have traditionally been the preserve of the colleges.

On one hand there are growing demands that universities should become relevant to the needs of society. Advocates of this view want university studies to become more applied in nature and research.

On the other there are growing pressures for a return to traditional tough liberal honours programmes which produce generalists who later go on to specialize in professional schools. This is partly in response to disaffiliation with the "cafeteria style" of learning that has blossomed over the past few years.

In any event whichever way the academic pendulum swings the question of staff re-training will have to be tackled. In order to mitigate the effects of contraction there will have to be effective staff re-training programmes to enable arts and social science lecturers to in-put into professional programmes.

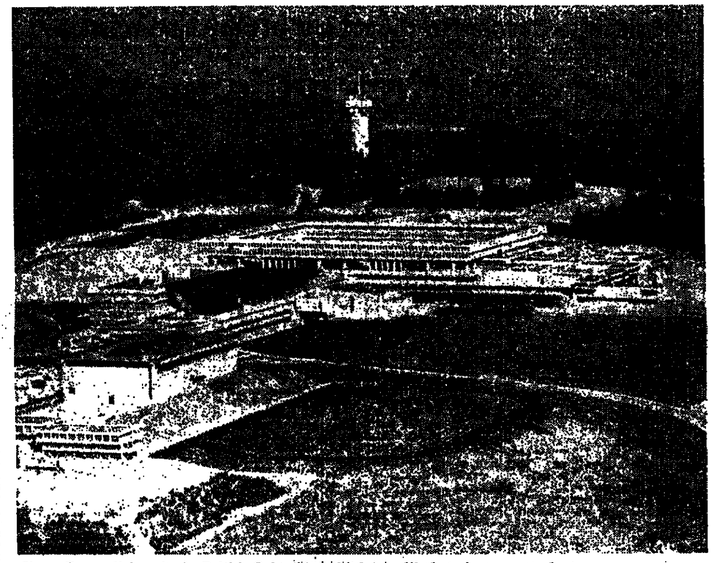
Considerable thought is also being devoted to other measures which might ameliorate the effects of staff redundancies. These include attrition, early retirement, national transfers to third world countries, shared appointments with government, industry and business, and long sabbaticals.

There remains the problem of protecting research. A significant enrolment decline could reduce the total volume of research activity and the degree of funding support.

Special steps will need to be taken to ensure that a certain percentage of positions will be reserved for new young scholars and researchers.

Equally importantly governments, provincial and federal, are coming under increasing pressure to protect and increase research funding.

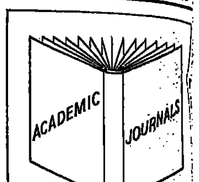
The percentage of the gross national product that Canada spends on research is currently one of the lowest in the developed world (0.8 per cent). The previous Liberal administration of Pierre Trudeau had promised to increase this percentage to 1.5 and it is understood that the new conservative federal government may try to reach this target.



Simon Fraser University in British Columbia, which is unlikely to lose any students.

As part of our occasional series on scholarly journals, Stewart Robertson looks at periodicals devoted to the subject of pure mathematics.

Cost equation adds up to changes in production methods and format



Periodicals combine some of the freshness of hand-written correspondence with the formality and permanence of books. They communicate through space to contemporary scholars, and through time to scholars in the future.

This double role is a difficult one for any periodical to perform in the modern world, and several intermediate forms of publication have emerged to bridge the gaps. One of these is the "preprint", consisting of a multicopied typescript that is circulated privately before, or instead of, formal publication. Preprints fill the gap between correspondence and the periodicals.

Likewise, the gap between periodicals and books has been plugged to some extent by a variety of informally produced "lecture notes", often the outcome of a specialist conference, which aim to combine the immediacy of quick publication at relatively low cost with the discursive style and coverage that book length permits. These different emphases are visible within the variety of periodicals themselves. In mathematics (by which I mean at least, if not exclusively, pure mathematics) the range is enormous.

It includes, for instance, the *Mathematical Intelligencer*, scarcely two years old, with the prolific genius Euler as its patron saint and the anti-Gaussian dictum *immatura sed multa* as its motto, together with the august *Philosophical Transactions* of the Royal Society of London, founded three centuries ago and still sailing on serenely.

It also includes the tongue-in cheek *Manifold* produced at, but not by, the University of Warwick, full of cartoons, jokes, stories, gossip, puzzles, book reviews and entertaining mathematics; as well as the great *Annals of Mathematics*, whose pages record the highest achievements of the world's leading mathematicians. The pulse rate ranges from the steady throb of the weekly *Comptes Rendus* of the French Academy of Sciences, to the majestic four-yearly beat of the *Proceedings*, of the International Congresses of Mathematicians.

This diverse mass of mathematical periodicals has several distinguishing characteristics, which may be summarized as comprehensiveness, stability and homogeneity. (All, incidentally, are favourite words in technical mathematics.)

Comprehensiveness refers to the fact that there is a small core of a hundred or so most frequently cited journals that stand out from the common herd of about 2,000 currently roaming the Earth. And while there are only about 20 mathematical periodicals based on the UK (and again I emphasize that I am thinking primarily of pure mathematics) at least ten of these are to be found in the most cited 100, and at least one (which the society I serve would be too modest to name) hovers about within the top 20. It follows that a study of the UK scene should give some impression of the global picture.

There are two senses in which the term "stability" is applicable. First, mathematical periodicals tend to hold their individual positions in the pecking order; famous periodicals such as *Mathematische Annalen* (founded 1868) remain at or near the top of the league table for decade after decade. And secondly, research articles in mathematics may retain their interest and importance for a very long time. Thus an article *Sopra* to the very latest developments is quite likely to include references to papers published a hundred years ago.

Until about 1950, nearly all mathematical periodicals accepted articles over the whole range of mathematics. But academic salaries are not the only aspect of scholarly life that has suffered serious erosion since the early 1960s.

The claim of mathematics to homogeneity in its periodicals has been weakened by the appearance of some high-quality journals specializing in a particular area of mathematics. For example, each of topology, algebra, differential equations, differential geometry and combinatorial theory now has its own periodical. But this phenomenon has appeared very late in the day in comparison with what has happened in science.

It may be worth remarking at this stage that single authorship is still the rule. A rough count indicates that about 85 per cent of mathematical articles appear under single authorship. Of the remaining 15 per cent 14 are accounted for by articles written by pairs of collaborators (often master and pupil), and the residual 1 per cent by trios. It is very rare for more than three to attach their names to a paper, and the clusters of a dozen or more "authors" that are occasionally to be seen clinging like mussels to a single publication in the scientific press are unknown in mathematics. The mathematical author is closer to the poet than to the team scientist.

To form an idea of where the present variety of periodicals came from, we look back to sixteenth-century Europe, and to Italy in particular, where magic and science went hand in hand (as today) and the first learned societies began to condense round rich or aristocratic patrons.

Societies began to issue regular publications

We read of the short-lived *Academia Secretorum Naturae*, founded at Naples in 1560 and suppressed by the Pope on suspicion of practising the black arts, and of the more successful *Accademia dei Lincei* (Lincei=Lynxes; a reference to sharp-eyed perspicience), formed in 1603 by Duke Federico Cesi, which counted Galileo among its members. The *Lincei* collapsed in 1630 when the Duke died, but the society was revived briefly in the middle of the eighteenth century, and again at the beginning of the nineteenth, continuing to the present day with its own journal. Some of Galileo's followers, including the mathematician Viviani, created the *Accademia del Cimento* (Academy of Experiment) at Florence. But this lasted only from 1657 to 1667 and produced a single publication, *Saggi di Naturali Esperienze* (1667).

Such early organizations did not produce journals, and although the heyday of societies, which rapidly acquired national status, rather than local or court status, did issue regular publications, the very first scientific (and hence mathematical) periodicals were essentially private in origin.

They include the *Journal des Sçavans* (*or Sçavants*) (1665; 1790) in which articles on pure mathematics may be found from 1676 onwards, Sluze's *Collectim Curiosum* (1672), and the highly regarded *Acta Eruditorum* (1682), in which Leibniz contributed the d of which, a long run was found in Newton's personal library. Even *Philosophical Transaction* (founded 1665), associated today in everyone's mind with the Royal Society of London, began as an independent publication, under Oldenburg's direction, albeit with the Royal Society's active encouragement and approval. An early title page reads simply: "Philosophical Transactions, giving some account of the present undertakings, studies, and labours of the ingenious in many considerable parts of the world." It is difficult to think of a better summary of what a good periodical should contain, and the explicit international reference is particularly interesting.

Mathematical periodicals, whether associated with a learned society or undertaken as independent enterprises, proliferated rapidly from that time. Denis Mitier found that only 17 journals containing mathematical articles had appeared by the year 1700; by 1750 there were 71; by 1800 the number had grown to 227; and by the end of the nineteenth century the equal stood at 950.

Such a pattern of development evokes fashionable cries of alarm and doomwatch fears of exponential growth. Current figures suggest, however, a fairly steady growth rate of 10 to 15 new mathematical periodicals per annum in the present century; desperate but perhaps not too serious.

It is customary to use disparaging terms in speaking of British mathematics for the century following Newton's death (1727). But while there are no names to set alongside the European giants of Euler and Lagrange in the field of creative mathematics, it is interesting to find a widespread and intense devotion to elementary, problem-solving mathematics, sufficient to sustain a number of publications at this modest, but by no means trivial, level.

The Lady's Dairy, which began publication in 1704, is the unlikely title of the best known of these. It continued in one form or another up to 1872; its life including a happy marriage to the *Gentleman's Diary* in 1841, when the bride was already 137 years old, and the groom a mere centenarian. In a survey of such "minor" serials, R. C. Archibald found more than 40 interesting examples, emanating in many cases from provincial cities such as Manchester, York and Stockton.

This marked interest in elementary mathematics is an encouraging feature of mathematical life in many countries today, and there is still a formidable array of periodicals to meet the demand. The *American Mathematical Monthly* has appeared since 1894, while the United Kingdom can offer a number of vigorous examples, including the *Mathematical Gazette*, a journal of the Mathematical Association, which emerged towards the end of the nineteenth century from the Association for Improvement of Geometrical Teaching (1871-95).

More recently, *Mathematical Spectrum* has appeared under the umbrella of the Applied Probability Trust, which in turn is sponsored by the London Mathematical Society. These periodicals provide an invaluable area of common ground for students, teachers, research mathematicians and the general reader. In this context, I should also mention Martin Gardner's extremely popular mathematical games section in the *Scientific American*, and that same journal's frequent features articles on current mathematical ideas.

Returning to the eighteenth century, one is led to conjecture that the high level of interest in mathematics must have induced the formation of mathematical clubs and societies throughout Europe. While this may be so, only two examples are well documented.

One is the *Mathematische Gesellschaft zu Hamburg*, whose remarkably early foundation year (1690) makes it a candidate for the distinction of being the first specialist mathematical society in Europe, and which issued regular publications from the early eighteenth to the late nineteenth century.

The other is the Mathematical Society of Spitalfields, founded near Brick Lane in London in the year 1717. Its first members were silk weavers of Huguenot descent, but it gradually became a society for the professional classes. In spite of its name, the Spitalfields Society covered a wide range of scientific subjects in its programmes of lectures.

Professional mathematical societies of national status appeared very late in the century. The Moscow Mathematical Society, stirring life in 1864 as the Moscow Mathematical Circle, was one of the first on the scene, followed closely by the London Mathematical Society. The latter was formed in 1865 on the initiative of two students of University College (one of them the son of Professor de Morgan), and its 27 founder members included Benjamin Compeyne, who had been president of the old Spitalfields Society in 1827.

Like its Russian analogue, the LMS took some time to find its true identity. It was first called the University College Mathematical Society, then the London University Mathematical Society, the Mathematical Society of London and finally adopted its present name. It is amusing to read of an unsuccessful bid in 1886 to conform to the common English delusion of uniqueness by dropping the adjective "London" from the title.

The Société Mathématique de France (1872), the Edinburgh Mathematical Society (1883), Circolo Matematico di Palermo (1884), and the American Mathematical Society (beginning in 1888 as the New York Mathematical Society) followed in rapid succession. All of these societies produced periodicals to compete with leading European journals such as Crelle's *Journal für die reine und angewandte Mathematik* (1826) (perhaps the first periodical of world stature devoted entirely to Mathematics), and *Liouville's Journal de Mathématiques Pures et Appliquées* (1836).

In many cases, the periodicals of such societies were, or purported to be, the records of actual meetings. Hence the prevalence of the term "proceedings". In the case of the LMS, for example, papers offered for publication were usually presented at the blackboard and discussed by the assembled members.

But as the societies grew, papers tended to be merely "presented" or "read by the title", until the present arrangement whereby articles are submitted directly to an individual editorial adviser, to be refereed by one or possibly two specialists, was adopted. Occasionally, of course, the text of some lecture of unusual interest or importance, such as a presidential address, is printed in a society's periodical.

Many European periodicals adopted an outward looking stance from the outset, and welcomed articles from any direction and in any of the recognized languages of scholarship.

Growth of single subject publications

If we look at the publication records of prominent mathematicians, we can trace the growth of international contacts and attitudes. In his brief publication span of only 15 years (he died in 1879, aged 34) Clifford published nearly 40 articles, of which only two were published abroad.

Likewise, although Cayley (1821-95) spread his 967 articles over 27 periodicals, of which a dozen are foreign, the vast mass of his prodigious output appeared in British journals. Again, G. H. Hardy (1877-1947) favoured only seven English periodicals (including *Mind*, and the *Educational Times*), but the LMS *Proceedings* is graced by some of his articles, including, of course, many written jointly with Littlewood.

In the next generation, however, we find another great English mathematician, J. H. C. Whitehead (1904-1960), a nephew of A. N. Whitehead, writing about 90 research articles which he distributed between the United Kingdom, United States and Europe in the ratio 4:4:1.

Today, of course, mathematics is divided by specialities rather than by nationalities, and kindred spirits are more likely to work in neighbouring continents rather than in neighbouring rooms. The constant rapid expansion of knowledge towards the remote rim of specialized isolation is compensated by a contrary movement of absorption, simplification and generalization.

These two opposing tendencies in mathematics sustain a delicate balance that enables the subject to preserve its unity and intelligibility.

Thus the growth of single subject publications had been complemented by a number of periodicals devoted to mathematics in general.

I have said little of the relationship between the universities and mathematical periodicals in the United Kingdom. It is hardly surprising to find a number of periodicals associated, however indirectly, with Oxford and Cambridge.

Although I have mentioned *Topology* already as an example of a fully international specialist journal, so that its editorial board includes leading topologists from all over the world, it has a strong Oxford flavour, proclaiming J. H. C. Whitehead himself as founder of the first number appearing less than two years after his death, and issuing forth from the Pergamon stable.

The *Quarterly Journal of Mathematics* has been based at Oxford since its foundation in 1930, while Cambridge is associated with several journals, notably: the *Cambridge Mathematical Journal* (1845), which grew (*via* the *Cambridge and Dublin Mathematical Journal* (1846-54)) into the *Quarterly Journal of Pure and Applied Mathematics* (1857); the *Messenger of Mathematics*, originally the *Oxford, Cambridge and Dublin Messenger of Mathematics*, begun in 1871 and edited for its first decade by W. J. Whitworth of St John's College "with diminishing zeal"; and the *Proceeding of the Cambridge Philosophical Society*, which only a few years ago added the adjective "mathematical" to its name, at the risk revealing its true nature to the outside world.

At student level, there is also a well established Cambridge magazine, the optimistically named *Eureka*. This is the organ of the Archimedeans, and its editors have a declared policy of maintaining a strong Cambridge flavour. The recent issue all the contributors studied at Cambridge. Subscriptions, however, are welcomed from any quarter.

Besides giving birth to the undergraduate periodicals mentioned above, the Department of Mathematics, University College London, publishes *Mathematika* (1954) and has won a high international reputation. In Scotland, individual members of university departments have run the *Proceedings of the Edinburgh Mathematical Society*, the mathematical side of the Royal Society of Edinburgh, while Glasgow University is now directly responsible for the *Glasgow Mathematical Journal*, taken over by the Glasgow Mathematical Association.

It is interesting to note that some of the journals I have mentioned includes in its title some adjective denoting a nation: "British" (or even "Scottish" or "Welsh" or "English"). Presumably the RMS is reluctant to assert its national status in the face of possible Glaswegian and Welsh opposition, while the LMS, the undoubtedly the national (or mathematical society of England) might hesitate to make territorial claims across the northern and western borders.

It now costs about £35 per page to print a conventional mathematical journal in the United Kingdom. An annual output of, say, 800 pages costs more than £6,000 to produce. But few individuals have the money to buy or the space to store more than one or two periodicals at full subscription prices. A few thousand or so institutions and libraries are the main source of revenue, although they too are short of cash and shelf room. There seems no immediate danger of the United Kingdom periodicals will disappear, but it seems certain that major changes in production methods and format must be made soon.

I, for one, shall be sad to find the *LMS Bulletin* on a plinth, with three centuries of the *Phil. Trans.* in a matchbox. But perhaps I am only one of Goldsmith's gentle critics: "and still the wonder grew . . ."

The author is Professor of Pure Mathematics at the University of Southampton, and publications secretary of the London Mathematical Society.

Raymond Williams' long revolution

Anthony Giddens reviews the new book in which Raymond Williams takes part in a dialogue with the New Left Review

The past few years have seen a remarkable merging of issues in a number of erstwhile largely separate areas of intellectual endeavour. C. P. Snow some while ago provoked a storm of controversy by arguing that a chasm had opened up between the natural sciences and the humanities. But one could perhaps claim (as some did at the time) that this in fact understated the case.

In so far as academic disciplines are concerned, there were actually three broad areas largely sealed off from one another: for to these two separate constituencies of knowledge one could add the social sciences. Although the dominant tradition in the social sciences was one that set out to ape natural science, few sociologists either knew much about natural science or were well read in the literature of the philosophy of science.

Fewer still paid any attention to aesthetics or literary criticism: the suggestion that these might have some bearing on problems of sociology, or vice versa, would have been received with scorn or incomprehension. All this has now changed. Social theory is today the meeting-ground of the philosophy of science and poetics; at the same time, these influences have transformed, and have themselves been changed, by new conceptions of the character and goals of social analysis.

Marxist writings have been at the centre of these transformations, although the discussions involved have by no means been dominated by Marxist authors. "Marxism" is no longer a single body of doctrines, if it ever was, but includes a variety of differing epistemological, theoretical, and practical viewpoints. Some of these viewpoints, such as those associated with the input of phenomenology or structuralism into Marxist thought, have emanated from intellectual schools that used to be virtually unknown in Britain.

Britain has in any case classically lacked a strong tradition of Marxist thought. One of the main contributions of the *New Left Review*, since Perry Anderson assumed the editorship, has been to promote a sophisticated forum for the development of Marxist debate in Britain. Under Anderson's leadership, the *New Left Review* has followed a definite "house line": the presence of Althusser and of those substantially influenced by him has brooked large. None the less there is no doubt that the journal has played a part in furthering the goal of integrating Britain more directly into the intellectual life of Anderson calls "Western Marxism."

By the same token, it has tended to operate in a rather rarefied and arcane intellectual atmosphere, and some have not welcomed initiation into the Mysteries of Paris. The influence of Althusser and his students, not only as promoted by the *New Left Review*, but also as expressed in a different form in the writings of Hindess, Hirst and others, has recently been violently attacked by E. P. Thompson in a book called *The Poverty of Theory*.

The perspectives and style of the contemporary *New Left Review* are not at all to the taste of some of the "older generation" of socialists who were connected with the earlier years of the evolution of the journal, originally formed from a merger of the *Universities and Left Review* and *New Reasoner*.

All, however, is not sectarian bitterness. Raymond Williams is one of the most distinguished of those in the "older generation" associated with the initial founding of the *New Left Review*, and he has continued to publish in its pages.

Politics and Letters takes the form of a dialogue between Williams and three members of the current editorial board of the *New Left Review*, Perry Anderson, Anthony Barnett and Francis Mulhern. Williams was interviewed by these three—presumably collectively, although this is not indicated and the separate questioners are not identified—over a period of some months in 1977-78.

The result is a bulky volume, in which the questions are often longer and more complicated than the answers. How Williams managed to understand them immediately and fully, as he appears to have done, I do not know. The foreword does not explain how the book has been written, if at all. At any rate, there are no ums and ers, or any places at which the subject of the grilling says, "I didn't quite follow" or "Would you mind repeating that?" However the book was actually put together, it contains a great deal of interesting material, and the questioning is frequently acute.

He admits to major limitations in various sectors of his work

The road Raymond Williams has travelled in his career runs not from Eton to Wigan Pier, but from a working-class background in Pandy, on the Welsh borders, to Trinity College, Cambridge. This was his personal long revolution, and in the course of the interviews it becomes apparent how closely his writings have been bound in to his own experiences. In an anti-rank but true sense, his own biography, and his own bibliography, Williams does not—or so it seems to the reader, anyway—attempt to force his intellectual career into a framework that is of recent construction. Rather, with the humour and modesty of a man slightly surprised about his own success, he admits to major limitations in various sectors of his work, and talks freely of the chance factors that have affected the direction of his life.

Williams come from a family with strong Labour Party affiliations, and moved in socialist circles from the early years of his life through to his studies as an undergraduate in Cambridge—which were interrupted by the War, and resumed afterwards.

Rather than creating a source of tension or dissonance for the working-class boy "making it" to Cambridge, Williams's socialist connexions and interests provided a cushion against the potentially disruptive experience of moving between two very different milieux. His parents strongly believed in the desirability of education and were a source of consistent support; the Socialist Club in Cambridge offered a network of friends within the university.

As an undergraduate prior to the War, Williams joined the Communist Party but not, as he says, with the consciousness that he was abandoning reformist politics in favour of an actively militant stance. He spends of the atmosphere of the Socialist Club as a "confident culture", and this was obviously in both a personal and political sense very important to him.

It left untouched the formal pattern of university work, since political activities were mostly kept separate from the university as an organization. It was very different, he remarks, from the climate of the late 1960s: not only because of the direct clashes with the university administration in which radical students were involved in the second period, but because of the "intense disviveness" among different groups on the Left at the later time.

Williams did not stay in the Communist Party after being called up to serve in the War. His leaving was not brought about in a calculated fashion, he says; he merely allowed his membership of the party to lapse. By the time he returned to Cambridge after the War, in which he served in an anti-tank unit and participated in the Normandy landings, he was no longer a part of this "confident culture". A period of disillusion and self-doubt was combined with a drive to take up academic work "quite fanatically".

The influence of Leavis was by that time beginning to make itself felt, and certain of his ideas attracted Williams strongly. From that time to this, Williams has been preoccupied with "culture" in its various senses. Three elements of Leavis's views seemed to Williams to lend themselves to the formulation of a "cultural politics" very distant in other respects from Leavis's position. One was the radical nature of Leavis's attacks upon academic literary criticism and contemporary standards of journalism. Another was the discovery of practical criticism: a discovery Williams found "intoxicating" at the time, but towards which he today maintains a more reserved attitude. Just as important as these was Leavis's emphasis upon the significance of education, which Williams of course interpreted in his own fashion, but which accorded with his own experience.

He shortly afterwards acquired a job teaching literature for the WEA in Oxford—a job which he found discouraging in some ways, but which also influenced his academic work in a direct fashion. He remained teaching in adult education until moving to a lectureship in Cambridge in 1961. Cambridge, one is tempted to say, always reclaims its own.

Culture and Society and *The Long Revolution* were the books that made Williams famous. But the second was very much an extension of certain basic ideas established in the earlier book. Each has actively contributed to the long revolution which they diagnosed, in the sense that they have reached a very broad audience.

In *Culture and Society*, Williams suggested that it was both possible and necessary to move towards what he called "a new general theory of culture". The main theme of the books was that both the notion of culture and the term itself, in recognizably modern usage, came into currency in England during the period of the Industrial Revolution.

The connexion Williams tried to demonstrate, was not a fortuitous one, and he attempted to chart the progress of the idea through the works of a variety of authors from the opening of the nineteenth century through to the mid-twentieth century. The book introduced a number of other "key words" which he showed came into use, or were substantially modified, in the period of the Industrial Revolution: "industry", "democracy", "class" and "art".

He had intended to include an appendix which would detail no less than 50 such key terms; by the dictate of the publisher this was removed from the published version, and only appeared some 20 years later, in 1976, as a separate book, *Keywords*. But the keyest of Williams's key words reunited that of "culture" which, he argued, in *Culture and Society* and *The Long Revolution*, expressed two related sets of processes. The emergence of the term marked an acknowledgment of the separation of a particular sphere of moral and intellectual concerns from the driving force of the new society, industrialism.

He has not deviated from the goal of furthering the long revolution

But the development of the concept of culture also provided what he called "a court of human appeal . . . a mitigating and rallying alternative" to the experience of industrial production. As he made clear in *The Long Revolution*, the idea of culture was a response to political change as well as economic, more specifically to development of democratic ideals. There is no easy and obvious correlation, he pointed out, between industrialization and democracy.

But economic growth and political transformation, he thought, had been fairly well documented by previous writers. Such documentation had, however, to be related to a "third revolution", the expansion of culture in its interrelation with economic and political development: this was the analysis he set out to provide in *The Long Revolution*.

The book, like its predecessor, provoked some considerable controversy, as their author had meant there to do. Many critics objected especially to the strongly defined "sociological" components of Williams's analyses, as expressed in the relating of intellectual or literary culture to the "structures of sentiment" of the culture of the common people. Williams's interviewers press him quite hard on what they see as the shortcomings of the two works. He does not concede everything, but evidently himself feels at some distance from them today, and he is particularly critical of *Culture and Society*.

He shows himself to be as penetrating a reviewer of his earlier work as his interrogators, and in the discussion some of its principal limitations emerge rather clearly. The books counterpose "industry" rather than "capitalism" to culture, and do not adequately explore either the dislocations between different sectors of cultural life, or situate them within the context of class struggles. Cultural development appears as something of a separate and abstracted process—an emphasis which derived in some part, but certainly not completely, from the presumption that economic and political transformations had already been relatively well chronicled and the problem was to "add on" the third dimension of culture.

Williams's subsequent writing career has been a very productive one, and although in one sense he has ranged over a considerable span of subjects, his work cut against less by reality than by comprising a single overall project. He has not deviated from the goal of analysing and furthering the long revolution towards a "participatory socialism", and of concentrating upon developing methods of cultural diagnosis and critique relevant to that goal. This continuity is evident enough in *Communications* and his book on *Television*.

But both his novels and his more specialized discussions of drama and literary criticism relate closely to his other writings. The connections between the various aspects of Williams's work are covered in an illuminating way in the interchanges between him and his questioners.

There are of course aspe-

Patrick Parrinder

Williams' long revolution

continued from page 11

biographical elements in Williams's novels, but their theme is not simply the description of personal experience: it is the relating of such experience to broad-based movements of social change. Just as in *The Long Revolution* he protested against the equation of working-class culture with a few "proletarian novels", so in *Border Country* he wanted to avoid an account of an encapsulated working-class community separated from the rest of the world.

The novel differs from the characteristic tone of much British fiction of the 1950s, the individual escaping, for better or worse, from the grip of a working-class upbringing; there is a greater emphasis upon the changes that the community itself undergoes. The transition between the personal and the public, the intersection between private experience or feeling and "structures of sentiment", come through as predominant features of Williams's concerns and ones he has continually struggled with.

It is prominent also in his works on drama. As an undergraduate he wrote a long essay on Ibsen, later partially incorporated in *Drama from Ibsen to Eliot*. Ibsen early on crystallized certain of Williams's own feelings at a time when he had lost some of the certitude he had previously enjoyed. But in Ibsen the combating of despair is treated as a subjective project, and it took some while before Williams managed to recognize in full the need to amend this view of "individual liberation" in the light of a conception of "social liberation".

The position expressed in the book, he later came to realize more clearly, was an "inherently unstable" one for this among other reasons. His discovery of Brecht, and the highly original discussion of that author which appears in *Drama from Ibsen to Brecht*, enabled him to modify his earlier view. Williams did not see Brecht merely as a "political dramatist".

Brecht transcended one of the main confines of naturalistic drama by refusing to treat events "offstage" as unexplicated determinants of the one-stage drama; not however by substituting politics for naturalism, but by making the actual dramatic actions embody the presence of erstwhile "outside" history.

There seem to me to be many unresolved difficulties in Williams's work prior to the present decade, in which the publication of *Marxism and Literature* marks something of a break with the general continuity in his earlier writings. I do not think that some of the most basic of these difficulties are explored fully enough by the *New Left Review* group.

Among these I would mention particularly Williams's long-standing emphasis upon the concept of culture as the keyword that opens more latches than any other; the pronounced concentration of his writings upon British sources and British history; and a series of latent "hermeneutic problems", or problems of language, meaning and epistemology, that are especially manifest in *Keywords*.

The first two of these points can be bracketed with one another. In fastening upon the notion of culture, Williams sees able to open up new horizons for social history. What ever he may feel about them now there is no doubt that *Culture and Society* and *The Long Revolution* were outstanding contributions, works whose contemporary relevance is far from exhausted.

At the same time, there is equally no doubt in my mind that the centrality Williams accorded to "culture" as an organizing concept has proved to be a double-edged sword. It creates dilemmas that I do not think he has been able to resolve satisfactorily in his subsequent writings. These dilemmas are various, but they stem in some degree from grounding the idea of "culture" and demoting the idea of "society" in a context that is essentially conservative from which he took the notion, although he tried in turn to radical advantage.

Even in *Keywords*, written relatively recently, when discussing the origins of modern uses of "culture" Williams seems to me to underplay the significance of its derivation from *Kultur*, and from German Romanticism. He agrees with his *New Left Review* critics that it was a mistake to have written Culture and Society as if British thought developed in insulation from the Continent, and makes it apparent that of his earlier works this is the one he feels least affinity with today. Nonetheless, he continued to centre his writings around the concept of culture.

Both the German Romantics and their English admirers or counterparts or the conservative side—up to and including Eliot—juxtaposed culture and industry or technology. In seeking to radicalize their thought, Williams continued the same juxtaposition. But it is just this polarity which obscures the grounding of modern technology in the capitalist accumulation process, and which in my opinion opposes "idealism" to "materialism" in an unacceptable manner.

Could Williams be tumbling into a relativist position?

It is very much connected to the assertion of the primacy of "culture" over "society". As used by many sociologists to imply some sort of harmonious society unity, the term "society" may justly be regarded with suspicion. But if understood as social relations of both dependence and struggle, it supplies an essential mediation between the polarity of "culture" and "industry" as these appear in Williams's writings.

Partly for these reasons, I think, what I have previously mentioned as one of Williams's most persistent preoccupations, the relations between "structures of sentiment or feeling" and the nature of day-to-day personal experience, remains elusive. Throughout his writing he has argued that, as he put it in *The Long Revolution*, "What we are looking for, always, is the actual life that the whole organization is there to express".

Day-to-day experience involves both continuity and change, change which in the modern era is expressed in linguistic mutations such as are analysed in *Keywords*. Two overlapping traditions of philosophy seem to be particularly relevant to conceptualizing these matters, but neither, so far as I know, is drawn upon by Williams: hermeneutic phenomenology, and the philosophy of the later Wittgenstein.

One of the most important developments marked by each of these forms of contemporary philosophy is that they insist that personal experience is known to the self as a "self" only via the public categories of language. They specifically reject the dualism of private experience and socially formed culture which it seems to me Williams's analyses still presuppose, however much he might insist they are to be related to one another.

It is a mistake to associate these philosophies with the "linguistic turn" that is so frequently regarded as a major feature of contemporary social thought. For both stress the interweaving of language and practice, the "other face" of language in "Being", or what cannot be spoken". Hermeneutic philosophy has also for a long while raised an issue that is posed rather acutely by *Keywords*, and the mode of cultural analysis it expresses: the issue of the historical character of human knowledge.

If the changes in terminology Williams describes are more than just changes in terminology — if they are, as he holds, changes in overall frames of experience or meaning—there is no obvious reason why his own analyses of such changes should themselves be exempt from the historical process. Problems of the relativity of human knowledge, which crop up not only in hermeneutics but in the post-Kuhnian philosophy of science, seem integral to Williams's enterprise. *Keywords* does not confront such problems at all.

These comments, as I have said, refer to Williams's work before the appearance of *Marxism and Literature*. This is a much more abstract and "theoretical" book than anything he attempted previously, and among other things delves into problems of relativism in a fairly direct way. So much so, in fact, that his interviewers are slightly scandalized: could Williams himself be tumbling into a relativist position? Williams's response to this, and the reasons he cites in the opening part of *Marxism and Literature* as to why he wrote the book, bring us back to the themes mentioned at the beginning of this review.

Marxism today is embroiled in a series of debates which are transforming contemporary intellectual life. As Williams says in *Marxism and Literature*, two decades ago, in the English-speaking world, it seemed as though Marxism was "a settled body of theory or doctrine" and that literature was also "a settled body of work, or kinds of work, with known general qualities and properties".

The relation between the two could be examined, and Marxism "applied" to literature. Williams has never been a "Marxist" in this sense, and his earlier books were written from the point of view of what he now calls a "radical populism".

Marxism however, he argues, has become an open and flexible tradition of thought, rather than a dogmatic set of doctrines. At the same time, what "literature" is has become problematic. In response to these changes, Williams has become considerably more sensitive to what he describes as the "danger of relativism", but denies that he has succumbed to it.

He identifies his standpoint as one of "cultural materialism", and although the book expresses a major transition in his thought, the new Williams retains a great deal of continuity with the old. The book again begins with the concept of culture, and the notion of structures of feeling plays a pivotal role. But this time language is seen to be involved in a complex way with these ideas, and Williams tries to integrate a discussion of meaning with an analysis of the base/superstructure problem in Marxism. He begins to formulate a viewpoint which sees "language and signification as indissoluble elements of the material social process itself, involved all the time both in production and reproduction".

Some of the main dilemmas remain unresolved

I think this conception to be essentially correct. I am not at all convinced, however, that Williams manages in the book either to elaborate upon it successfully, or that it is rendered compatible with some of his earlier ideas which he claims to sustain.

We have recently been passing through a phase of "rabid idealism", Williams says at one point. He then adds that while on the one hand "there is no natural seeing and therefore there cannot be a direct and unmediated contact with reality", on the other "it is necessary to recall an absolutely founding presumption of materialism: namely that the natural world exists whether anyone signifies it or not". This sounds more like some sort of version of Kantianism than anything else, I imagine that Williams would not wish to advocate a Kantian position. However that may be, it seems to me that some of the main dilemmas raised by Williams's earlier work remain unresolved after *Marxism and Literature*, and indeed have become to a certain degree compounded.

If I have sounded a negative note in the above paragraphs, it is in the same spirit, if not wholly along the same lines, as the attitude adopted by Williams's questioners.

However, it is quite plain that the work of Raymond Williams—still "in progress"—represents an extraordinary achievement. Like its author, it stands up robustly to critical battering and there is indeed justification for the assessment given in the blurb on the book jacket: "Raymond Williams is the most productive and most influential socialist writer in England today."

I have as strong reservations about some aspects of the political content of his writings as I have mentioned just previously. But Williams's sustained commitment to the long revolution towards a participatory socialism, a commitment that is both reasoned and deeply felt, offers a source of inspiration to everyone interested in radical social change.

Raymond Williams: Politics and Letters. Interviews with the New Left Review. London: New Left Books, 1979. £12.75.

The author is a fellow of King's College, Cambridge.

John Habgood makes his contribution to the Book of Common Prayer debate

Danger of asking for more

There is an element of irony in the politics of liturgical revision, which has not so far received much attention. In drafting the Worship and Doctrine Measure (1975), under which alternative services are now authorized, great care was taken to secure the status, and continuing availability, of the Book of Common Prayer.

The working party on what has since then come to be known as the Alternative Service Book, were very conscious of this part of the Measure, and concluded that the only way to preserve the Book of Common Prayer in its entirety was to exclude all 1662 material from the new book.

The aim was to avoid any hint of competition, making it clear that the two books contain completely different material and are thus to be treated as complementary to one another. A possible danger in this policy is that those who decide to equip themselves with only one book will make no use at all of the other.

With hindsight it might be argued that a policy of judicious selection from the Book of Common Prayer would have done more to ensure that appropriate 1622 services are actually used. Unfortunately, the terms of the Measure, which defenders of the Prayer Book had insisted on, tied our hands. The moral, if there is one, is that those who ask for more sometimes end up by receiving less.

Fortunately the polarization is not as great as it may seem. The principle of strict separation has subsequently been broken by agreeing to print the traditional Canticles in an appendix to the Alternative Service Book, mainly for the benefit of those who wish to sing them in that form.

Series 1 Holy Communion, also contained in the book, is virtually identical with 1662. A preliminary decision has also been made to publish a small supplement to the Prayer Book containing 1662-type material, as in the 1928 Book. This should encourage those who value the wider range of prayers in the Series 3 material, to use 1662 with a similar degree of flexibility.

However, it is clear that these attempts to bridge the gulf are not going to satisfy the critics of the Liturgical Commission and all its works, any more than will episcopal assurances that parishes have a free choice in deciding what services to use. I hope, nevertheless, that the moral I have drawn from the politics of the exercise may inspire some of the more vehement spokesmen on both sides to moderate their tone.

It is foolish to claim that the Series 3 services cannot nourish a deep spirituality when there is plenty of experience available to show that they can. The Book of Common Prayer cut deep grooves in the minds of those brought up on it; but its invariance and rigidity could become stifling, which is why so many clergy felt the need to make their own additions.

The Series 3 services are richer and more satisfying in this respect. Although the new language does not carry the same reverberations as the old, there is in many places a complex use of scriptural imagery which, for those attuned to it, can be just as nourishing as complex, 17th century cadences. There are banalities, certainly. There are also awkwardnesses, particularly in places where some difficult theological corners have had to be turned.

But by and large my conclusion, after using Series 3 in many settings, and on a regular basis, is that it is not the thin gruel which some have claimed it to be. The sense of awe and mystery which it is said to lack depends more, I suspect, on the way it is celebrated than on the actual words used.

Here let me confess a personal dislike for junkettings around during the giving of the Peace in the Eucharist. There are times when a brief mutual acknowledgement of one another can be entirely appropriate and very moving. If ever the churches succeed in covenanting together, the giving of the Peace will be a highly significant action.

John Habgood—dislike of junketings.

But a Sunday by Sunday handshake all round can be both artificial and embarrassing, and can hide the vertical dimension, the crucial acknowledgment that each of us needs to receive God's peace if we are to communicate together. Some of the criticisms of the new services are in fact criticisms of the style of the clergy and their congregations, and this needs to be borne in mind when the services themselves are evaluated.

The cutting of deep grooves in the mind depends upon repeated use of the same material. For the individual accustomed to worshiping in a particular style, the process does not take all that long, provided the words are good enough to bear the weight of repetition, and memorable enough to sink in. A surprising number of people regretted the passing of "dear old Series 2" when Series 3 was published.

Three hundred years of repetition do not necessarily add much weight within an individual's consciousness, but they do, of course, make the words part of the general culture. On that level, revision entails undeniable loss.

In mitigation it can be argued that the cultural cues come from a fairly small part of the available material, and that these can become familiar enough to enrich cultural consciousness without having to be used as the main vehicles for prayer.

It is noticeable that those who want to show up the poverty of modern biblical translations, for instance, always quote from a very restricted range of passages. They steer well clear of the more obscure passages in Paul and Ezekiel. Fair enough. Selectiveness is the best policy. I see no reason why it should not be policy to pursue it. But it only arouses angry counter-reactions, to press the argument into a general rejection of all modern liturgies and translations as "journalese".

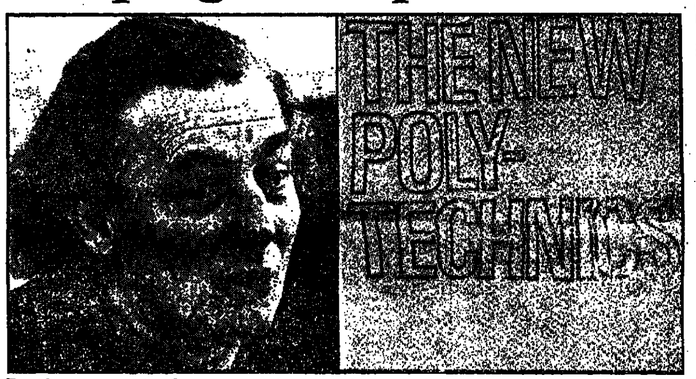
Cultural continuity is of great importance, and I concede the point that language plays a major part in it, especially for those whose main business is with words. Whether clinging to particular words can halt the process of cultural fragmentation, though, or only serve to accelerate it, is an open question.

My guess is that, given one of the consequences of liturgical revision as a shift in emphasis towards symbols and actions and away from the precise words which interpret them, one might expect a greater mutual acceptance of different traditions, at least within church circles, and hence, paradoxically, a partial antidote to fragmentation within the very process of change.

The point is at least worth debating. So, too, is the wider question whether it is reasonable for academics to expect the churches to bear this cultural burden alone when they have themselves done much to drive the churches into isolation. My hope is that constructive debate about cultural change in general will now take the place of petitions, manifestoes, jeers, and other disfigurements.

The author is Bishop of Durham.

The 'people's universities' —a progress report



In the second of our articles on the tenth anniversary of the polytechnics, Eric Robinson, who in the sixties was their first and most ardent advocate, compares the vision with the reality. Panache and self confidence, he finds, are the vital qualities.

It is now more than 20 years since the new polytechnics were conceived and most of them have now completed their first ten years of life. There have been disappointments but the achievement has been spectacular if we make our judgment against the thinking of 20 years ago.

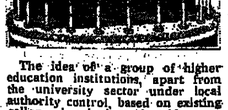
When in 1963 the Labour Party published the Taylor Report, *Years of Crisis*, suggesting that some 50 universities should be formed by amalgamating teachers' training colleges with technical colleges, there was a widespread response of incredibility, even on the left. Yet, in effect, that has happened in all but name. One of the members of the Taylor Committee was the late Tony Crosland, the sponsor of the 1966 policy who decided that these new institutions should, for reasons that seemed valid to the Government, be polytechnics and not universities.

Frequently I read that, notwithstanding their huge growth, the polytechnics have not fulfilled the expectations and hopes of those who advocated their establishment. And it is said that nobody has defined an identity or a role for polytechnics as distinct from universities. Neither is justified. It is the nature of political reality that such a development is not the consequence of one idea. The polytechnic policy was established with the support of a loose coalition of interests which represented different ideas and expectations. For example, in their evidence to the Robbins Committee, both HM Treasury and the technical teachers' union, the ATTI, offered support to a development of this kind with different motives and from very different viewpoints. Their concepts of the public sector higher education were quite different but led logically to support, with reservations, for the 1966 policy. Stated crudely, the Treasury wanted higher education on the cheap and the ATTI wanted better provision for higher education in technical colleges. Both can claim considerable success in the outcome and both the Treasury and the ATTI's successor, NATFHE, share an interest in maintaining the public sector distinct from the university sector, although with totally different motives.

Similarly the local education authorities supported the policy, and continue a coalition with its other supporters, but with different motives again.

In 1967 I wrote a book called *The New Polytechnics* which has sometimes been interpreted as a rationale for Crosland's 1966 policy and even used as evidence of my co-operation with him in a growing conspiracy to adulterate the purity of Labour Party commitment to equality and comprehensive education. This is not my view and I do not believe it was his because we differed quite fundamentally about the policy. Indeed the book was written as a memorandum to him to attempt to shift his thinking, but too late, because while in the minister's writing it is Holland, I read in *The Times* of his translation from Education to another post in Government.

There never was simply one idea or ideal of the polytechnics.



The idea of a group of higher education institutions, apart from the university sector under local authority control, based on existing colleges has had much wider support (notably from both major political parties) than one would think if one read only the academic press. What hopes and expectations did the supporters have in common? To what extent have they been fulfilled?

Perhaps the most important was the proposition that reputable higher education could be developed on a large scale outside the university system, unsupervised by universities. I believe that has been demonstrated beyond doubt.

This however is important only if it is significant. The significance most generally claimed for this was that free of university association, polytechnics would be better able to innovate, particularly in vocational education, and would be more responsive to social need as expressed by national and local governments, and by other social institutions. I believe that the polytechnics score well on innovation but that the record on social responsiveness, although not negligible, is disappointing.

Another justification for the polytechnic policy was that there would be value in retaining the "seamless robe" of education within local authority control; that there was advantage in having higher education institutes under the same control as the schools and the further education colleges. Here, I believe, the success is most difficult to claim. The polytechnics are not notably successful in their relationships with schools and FE colleges and the difficulties of their relationships with local authorities are the most often cited reasons for abandoning the policy.

A policy requires not only adequate conception but effective implementation.

Some of the disappointments can be attributed to a failure in consistent administrative action by national and local government, and it may be unfair to blame the polytechnics or the validity of the policy.

From the start all the supporters of the polytechnic policy acknowledged the dangers that the polytechnics would merely seek university status by "aping the universities" or, to put it in the academic term coined by Burgess and Pratt, succumb to "academic drift". I believed, and continue to believe, that to create a new category of institutions within the further education sector, rather than merely develop the existing institutions, and to encourage them to be exclusively concerned with higher education was bound to encourage academic drift and was a mistake. The polytechnics would be stronger now if they were less reluctant to engage in work that is not conventionally regarded as higher education.

I unsuccessfully tried to persuade Crosland that it was not sufficient to urge the polytechnics to retain sub-degree and part-time education; positive incentives had to be offered to them to do so and these have been lacking. In the establishment of the polytechnics the DES was preoccupied with the machinery of establishing the new institutions, with instruments and articles of government, for example, and gave too little attention to their educational character.

At their recent Bournemouth meeting with directors of polytechnics and colleges, Her Majesty's Inspectorate expressed an increased concern about this, but displayed a depressing lack of awareness of its past failures and little idea of how it can constructively intervene. Miss Shiela Brown, the senior chief HMI, warned of a future of payment-by-results without apparently realizing that the Inspectorate and the DES have failed dismally in the past ten years to reward success and to punish failure.

In 1967 I expected the polytechnic policy to fail. In particular I expected academic drift to triumph. The remarkable thing, particularly in the light of DES passivity, is the extent of its success, the extent of the innovation that has happened, of the continued and even increasing commitment of the polytechnics to sub-degree and part-time education and of the lack of enthusiasm in the polytechnics for university status.

Undoubtedly, there are those in polytechnics who see lush green grass on the other side of the binary fence. But there are also those who perceive advantage in direct association with local and national education authorities. The seamless robe is not a lost cause. Yet sometimes it seems that the DES and the local authorities are doing their utmost to discredit it and to forfeit their stake in higher education.

Most of the members of the Robbins Committee were veterans in experience from the operation of higher education within local authority jurisdiction. But they accurately perceived the frustrations and the difficulties and laid down conditions of institutional government that were necessary for the continuation of local control. Their report was followed by the formation of the Weaver Committee and the Prentice Working Party which both spelled out the problem and its solution. In many polytechnics and colleges, this solution, embodied in instrument and articles of government, is honoured in the breach rather than the observance and too many of those involved seem to have lost the will to make it work. That the Society of Education Officers should at this stage solemnly state (in a memorandum dated September, 1979) that it does not understand the nature of the difficulties is incomprehensible and alarming, to say the least.

If the Education Officers do not understand, after 20 years, what hope have we with chief executives, treasurers' personnel officers and, not least, members of local authorities? Here lies the strongest argument for autonomy status for the polytechnics—that the local authorities' officers do not understand—if it were true. Fortunately the SEO is unfair to itself, for some of its members do understand and the society ought to listen to them. Too many local authority officers have not taken the trouble to understand the Weaver system and to use the powers that are legitimately theirs.

Few colleges and polytechnics would deny the value of democratic control through elected representatives of the people. Few would wish to challenge the right of local and national government to determine general lines of policy. Few would deny the importance of accountability of the expenditure of public money and the consequent need for inspection and audit, probably to a greater extent than is now carried out. The impatience of polytechnics and colleges with local authority control is with the detailed intervention in management, that prevents quick decision making and is often incompetent.

If local authority officers were to concentrate on formulating for their members a choice of higher education policy options and realistic systems of audit and performance review, instead of encouraging their juniors to try to usurp the management functions of college administrators, the main dissatisfactions with local authority control would be resolved.

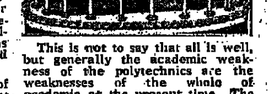
Problems with the DES are of the same kind, but in different areas. The procedures for course approvals have been a festering sore for at least 20 years. It is now greatly aggravated as the polytechnics need to respond to new demands in a highly competitive situation. To expect them to be socially responsive while denying them the freedom to respond is absurd. To find that two years' work in preparing a new course programme is frustrated bureaucratically and remotely for no apparently valid reason is probably the greatest single problem a polytechnic director has with the DES. Yet the DES persists in its procedures even though it knows them to have failed in their objectives for years. Even worse, it has diverted Her Majesty's Inspectorate from its proper role into the policing of the procedures.

If there had for the past 10 years been no DES and Regional Advisory Council Course approvals procedure at all, our pattern of polytechnic courses would now be more compatible with both student demand and employers' demand than it now is. If the DES now wants to improve its relationships with the polytechnics at no cost at all it should abandon its course approvals machinery forthwith.

The *raison d'être* of the Regional Advisory Councils and the Regional Staff Inspectors' Committee, in the heady days of open-ended finance, was to restrain local authorities from spending too lavishly. Their role has now passed to higher powers and they are redundant. They head my list of quangos for the attention of the Prime Minister. Perhaps she could allow them to meet occasionally on the condition that they discuss the education of students.

The education of students is the primary business of the polytechnics. Is it successful and is it sufficiently distinctive and innovative to justify the existence of the polytechnics? Or, as some detractors suggest, do the polytechnics offer only inferior versions of university degrees, together with insubstantial new subject mixes and mere gimmickry?

The evidence of shoddiness is slender and the evidence, documented by the CNAA, of substantial achievement is impressive. Few of those who denigrate the academic standards of the polytechnics know much about the workings of the CNAA and even fewer of them have submitted their own activities to scrutiny comparable with that of the CNAA. I will be impressed by the politician, university teacher, industrialist or school teacher who speaks slightingly of polytechnic standards if he offers to make his own professional practice the object of similar scrutiny.



This is not to say that all is well, but generally the academic weakness of the polytechnics are the weaknesses of the whole of academia at the present time. The social sciences, particularly sociology, are favourite contemporary whipping boys. Many polytechnics have a heavy involvement in the social sciences because their expansion coincided with the social science explosion. The polytechnics did not invent the social sciences. On the credit side they can claim much of the substantial achievement in social science education during the past decade.

Peter Scott has argued that the separate existence of polytechnics relieved the universities of pressure to sustain the development of sand-wich courses and other market-oriented forms of education. It may be that had the polytechnics been incorporated into the university system this development would

Continued on page 14

Patrick Parrinder

The people's universities

from page 13

have been stronger but this is not self evident. The fact is that in many ways the polytechnics have made substantial and generally successful efforts to develop teaching programmes closely related and well integrated with the fields of prospective employment of their graduates.

In many vocational fields the polytechnics have taken an impressive load. They have almost a monopoly of part-time vocational first degree opportunities and of first degree in business studies, pharmacy nursing, social work. They are leading a transformation of teacher education.

The polytechnic directors should give more effort to researching and publicizing the commitment of many of their students and the career successes of their graduates.

Recalling experiences of degree courses in technical colleges in the fifties, I marvel at the advances in standards and status that have been made. Of course there is some mediocrity and dull conformity. Some opportunities to take new initiatives have been missed, particularly in respect of some major social priorities—in the problems of race, poverty, unemployment and industrial decadence. Most often, I believe, this lack of initiative and response derives from lack of confidence rather than disinclination.

The greatest needs of the polytechnics are not money or autonomy, but self-confidence and panache. Their tradition, that of the technical and commercial colleges from which they were formed, of responding to the demands of students and employers is now of greater advantage than it ever was. Their willingness to respond to changing demands is the key to their future and that they should have 'freedom', to respond, and respond quickly, is essential.

They have to secure their future with government and with prospective students. Their leaders should direct their efforts to this and avoid entanglement in theological disputes about autonomy and status. Government, national and local, has lost its way in the control of higher education. The polytechnics should exploit the position, not by trying to break away from government and planning, but by showing how higher education can be accountable in a civilized way, and by showing how planning can work. The DES is now trying to find a method of allocating block grants to polytechnics. The indications are that it will tackle this in a conservative and unimaginative way. The polytechnics should prepare their own proposals for this exercise designed so that competence and innovation rather than stagnation are encouraged.

The polytechnics need a national strategy for student recruitment. Two elements of this are clear. They should go looking for the "missing students"—the able children from poorer homes who in their thousands are still escaping the net—and those able older people who missed the first time round. They should prepare to exploit the approaching demise of the sixth forms in which they have found major recruiting problems.

Many years ago I suggested that the polytechnics should establish their own GCE board. Events have overtaken this idea and the way forward has been shown not by a polytechnic, but the University of Lancaster in its open college schemes. Smaller initiatives have been taken by a number of colleges and polytechnics in providing new routes into higher education.

A major coordinating initiative would now be timely. The failure of the Schools Council and the DES to replace or improve the GCE system presents the opportunity. If the polytechnics would seize it by conceiving a national scheme for the PE certificate and adult colleges. It could be the most important of their achievements in this their continuation as part of the seamless robe of public education could be Phoenix from the ashes.

The author is principal of Bradford College.

Ground rules for victory in the paper war

John Wilson curses the man who invented the stuff we write on and connived in the proliferation of rubbish

You suffer from it, I suffer from it, we all suffer from it. Bumf.

Letters, circulars, forms, catalogues, magazines, papers, questionnaires, reports, memos, documents A, B, C and on through to Z and beyond. Statistical returns, reminders, invitations, programmes, health and safety regulations, fire instructions, notes on scraps of paper.

If I'd been running an adult education centre in Sumerian times my desk would have fallen through to the cellar or collapsed by now from the weight of the clay tablets.

Paper, paper, paper! Who invented the stuff? The Chinese wasn't it? I can just imagine it: "Ah Wong! I have just invented paper! You write on it—so! Many people will be able to communicate with each other quickly and with ease!"

Wong again! If there's one thing bumf achieves, it is to clog up, and often stop altogether, any real communication.

My concept of bliss is to come into my office and see my desk again. Pristine, empty, devoid of paper, mess. It's a beautiful desk in solid oak with a tasteful dark olive laminated top brass handles, spacious drawers, ample knee space; an inheritance from the old art school days. The only decent bit of furniture in the place. I haven't seen its surface for months. Covered, deluged, hidden. By bumf.

Of course, you may say I'm simply inefficient. I read with despair those potted biographies of the Great Men of Industry in the Sunday supplements. Moguls of vast financial empires, nationalised enterprises, who start work at 6.45 am, have the correspondence cleared by 8.15, a quick breakfast, run a series of half a dozen staff briefing sessions, jump on the inter-continental jet, tour the Italian plant, sack a manager or two, business deals over lunch in Paris, a quick shuffi through the financial papers of seven countries, write a 10,000 word report (do-it-yourself bumf) on the plane home, three board meetings, a pot of Darjeeling tea and on to write reports, 'phone Cabinet Ministers, sort out the financial affairs of 16 international consortia, till 10 pm, home to dinner and pop into bed at 12.45 to do an hour or so's light reading with Hansard. Sundays they have an hour or so off to do a little gardening in the five-acre cottage garden in Sussex. Time to a little gardening in the five-acre. I'm not like that (Are they? Really?) And I bet you're not either. I do try. I really do. Sometimes I come in early—that's about 8.30 instead of 8.45 am—fix the mess with a steady eye and say: "Today's the day! This is it! I'm going to clear that desk today!"

I start by opening the post. Much of it ends up on my desk. Nine o'clock, staff begin to arrive, returning to my desk documents, letters, reports (bumf) I had farmed out to them with a memo of my own, which also comes back, together with their memo to me answering, upsetting, advising me what to do about this particular piece of bumf or that (I know what I'd like to do with it). Bumf in triplicate, as it were. I read these responses, write more things on bits of paper, it's self-generating, is bumf.

Coffee time, and no bumf cleared. War must be declared. The telephone rings. And again. People drop planning the loos, don't work. Caretakers with vital messages from the barman (the only person I fear in the whole establishment). Beer must be ordered. Crisps must be picked up from the Cash and Carry. There is a visit meeting at 11.45.

I expect you have the same problems. The bumf remains, piled high. Rising steadily higher.

After lunch another attempt is made. While I have been out enjoying a brief half hour's sanity with a cheese roll and a half of bitter the second post has arrived. Opened by the clerical staff, it is spread on top of the older, gently rotting piles of bumf on the desk. The in-tray (I don't seem to have an out-tray) bumf has this magnetic tendency to move one way: it is piled high with vital, but utterly useless DES bulletins, hundreds of them, "After O levels, what?" What indeed?

These I assign to the wastepaper bin. A little victory. Few of our ageing adult student population have O levels. Should not know what to do with them if they had them. Does anyone?

I try sorting out the chaos into tidy, classified bundles: letters, forms requiring completion, county circulars to be read, digested and passed to the office for filing; requests for equipment; book catalogues. These spread, in decreasingly neat heaps from the desk to the coffee table, over the tops of the filing cabinets, bookcase, window ledge until eventually the whole floor is covered in paper and I've forgotten what is in each heap. In any event, there is always the arrival of an important visitor and everything ends up in one undifferentiated mass covering the desk once again.

Drucker, the great management guru, identifies the *Effective Executive* as he who does "first things first, second things not at all". Is bumf a "first thing" or a "second thing"? I ask myself? Answer sadly that it must be a "second thing" since, even when dealt with effectively, it achieves nothing. Sadly reflect that since my world is a nightmare world of drowning in bumf, I am not an *Effective Executive*. I am a failure.

When I get my desk cleared—when it is cleared, then I'll get down to Being Effective. Doing all the Important Things. Analysing the Vital Issues, like, What Am I Doing Here? Where Are We Going? What Is The Meaning of Our Existence? How Can We Do It All Successfully?

The desk is never cleared. Bumf ensures that these questions are never faced. Never will be answered.

The problem is that I have this obsessive conviction that bumf has actually got to be read. I religiously read every numbered paragraph of Government reports on libraries and museums, fearing that I might miss some vitally significant, if passing, reference to adult education. I answer every damnfool letter requesting information on the teaching of Grottle-Swozzle Carving in adult education for the purposes of obscure and arcane research. I even read the professional journals for the articles, not just the job adverts.

I attack the mouldering piles of paper. White, buff, green, pink; Golfball typed, hand scrawled, French litho print, dog-eared duplicated.

What does this, my own scribbled note, mean? And, Good God!—this event happens the day after to-morrow! I must do something. An other half hour gone. And this report; have I seen it before? Have I read it? I have to read it again. There's that letter from the CEO demanding an instant reply—six weeks ago. The telephone rings. Muffled. It is somewhere under the bumf. Damn that Chinaman, genius and his paper!

At 9 pm I sit in my big, black swivel chair (another inheritance from my predecessor this time; a big man, he must have worked in the Gestapo during the war, the visitors' seats are nine inches off the ground). The bumf remains, bulked menacingly on the desk before my tired eyes.

There must be a solution. Either I must beat the battle of the bumf or move to a new job where I can start with a clear desk. And hope. My opposite number in the Social Services has the correspondence caper conquered. Everything he gets in the post he sticks in a big cupboard behind his desk. He'd been looking for a use for it ever since the educational welfare officer stopped locking up truants in it.

He reckons if there is anything of importance they'll write to him again. They never do. Well, as far as he knows. Which is difficult, as he doesn't open them. Eventually, if it is important, they'll phone. He'll claim he never got it. Lost in the post. And its dealt with by phone. By real people talking to each other. Without bumf getting in the way. I call it the Bernard Principle (his name is Bernard).

His desk is beautifully clear. Of course, it's not such a nice desk as mine, but at least you can see it. And he's lost the harassed look he used to have. That I have. The you probably have.

Idly I thumb through a few papers and documents before going home. I'm beginning to find that if you leave things long enough they get out of date, lose their point; you can throw them away. Most of this bumf burdening my groaning desk could probably be thrown away as dated and useless. variation of the Bernard Principle. Perhaps this will be the key management tool of the 1980s—the Bernard Bureaucracy Beater. Meanwhile...

Today we have the beating of bumf. Yesterday, we had paper shuffling. And tomorrow morning we shall have what to do after winning... But today, today we have the beating of bumf. Next year's prospectus waits in its constituent parts in the filing cabinet, and today we have the beating of bumf.

The author is principal of Grayesham Adult Education Centre.

How the novel approach eclipses nicer academics

Phillip Thody thinks about a professor who won't enjoy the posterity of a Malcolm Bradbury anti-hero

Whenever I read a university novel, I think of Professor MacAndrew. I don't see him often, of course, because distinguished professors of applied science don't frequent the *hoi polloi* in the Senior Common Room. But since there aren't many novels written nowadays which aren't about universities, I obviously think about him a great deal. And I never do so without reflecting on how raw a deal life gets from literature.

For David MacAndrew, unlike the characters in university novels, is both a successful and an agreeable man. He once knocked up with a friend, while he was waiting to play in the annual tennis match against the polytechnic, rather a couple of tramps the president of the Students' Union in public and is known to have refused three offers to become principal of a polytechnic in the West Midlands.

He radiates happiness and fulfilment, and I heard him delicately putting Jenkins right about a point in Proust at the last Senate Dinner. But when, in 100 years time, scholars look back on university life in the twentieth century they will see MacAndrew.

For it applied sciences write scarcely get near his most negligent slights. When he is not inventing new circuits for Bell Telephones, he makes silver jewelry which he is too rich to need to sell but which he often donates for Oxfam or Amnesty Christmas sales. He lives in a large house, drives a Mercedes, is still married to the same beautiful woman, has three correctly spaced and well-brought-up children, always presents the most disguised graduate at the honorary degrees ceremony, supervises a PhD student a year and makes them finish their theses, consul professors do about their merit awards. They are too busy, too successful, too rich and too justifiably self-confident; and literature is born of failure, poverty and self-doubt. It consequently flourishes in arts faculties, where people also have a lot of time on their hands. And since the image that most people have of the past is still based upon the myths and images bequeathed to them by literature I need not continue. You know I am talking about the place which Stuart Tresize, Valerie Richardson, Professor Walsh, Howard Kirk and Philip Swallow will occupy in the social history books of 2078 and about the blank look which will come across anybody's face if Dave MacAndrew is as much as mentioned.

The author is professor of French literature at the University of Leeds.

BOOKS

A ruthless frontiersman of literature

The Letters of D. H. Lawrence, volume one, 1901-13
edited by James T. Boulton
Cambridge University Press, £15.00
ISBN 0 521 22147 1

D. H. Lawrence at Work: the emergence of the Prussian Officer stories
by Keith Cushman
Harvester Press, £10.50
ISBN 0 85527 614 2

D. H. Lawrence's Nightmare: the writer and his circle in the years of the Great War
by Paul Delany
Harvester Press, £8.50
ISBN 0 85527 746 7

The first volume of the Cambridge edition of Lawrence's letters and works begins with a striking new version of Lawrence's phoenix device, engraved by Reginald Stone. Lawrence adopted the phoenix as his symbol in late 1914, at about the same time as he grew the beard that was to lead a group of Berkshire village children to name him "Walking Jesus". Two years earlier, he had declared shortly after his elopement with Frieda Weekley that he had found his vocation as a "priest of love", "sticking up for the love between man and woman". Today the main Holy Place of the Lawrence cult is not his home town of Eastwood but Taos, New Mexico, where he shares the honours with the bloodthirsty Indian scout Kit Carson.

The Del Monte ranch above Taos was given to Frieda in 1924 by Mabel Dodge Luhan, and was, therefore, the nearest he ever came to having a house of his own. He stayed there long enough only to make it the setting of the magnificent ending to *St Mawr*. But after his death Frieda moved back there, married her third husband, and in 1935 built the tiny whitewashed shrine to which Lawrence's ashes were moved from the south of France. The ranch is now looked after by the University of New Mexico, while on the plaza in Taos is a permanent exhibition of Lawrence's "obscene" paintings, saved from judicial destruction by a solemn undertaking that they would be removed from England and never under any circumstances be allowed to return.

In the foreword to *D. H. Lawrence's Nightmare*, Paul Delany remarks that Lawrence's artistic achievement might have been greater, and more useful to his successors, if his quarrel with England had been less harsh and complete. There are two sides to every quarrel, and in the view that emerges from Professor Delany's study and Professor Boulton's edition, neither side can be exonerated. In one of his wartime letters expressing his longing to escape from America, an anguished Lawrence wrote that "I am English, and my Englishness is my very vision". Certainly nothing could be more English than the passionate, imaginatively enriching, and yet thwarting and frustrating experiences of his upbringing.

A late developer by modern standards, he was still discussing the possibility of a religious conversion with his local Congregational minister at the age of 20, and at 23 he claimed never to have kissed a girl on the mouth. He seems to have taken to heart G. K. Chesterton's opinion that the man who spoke of sex to a woman was a brute. As late as 1911, a letter to his sister about a friend's injury at cricket makes it clear that he did not know what part of the body the scrotum was. When he found out, he told his fiancée that the injury was "unmentionable". The puritanical Midlander would have been less impressed in Catholic Ireland, where a slightly younger Stephen Dedalus speaks to Buck Mulligan of the "scrotum-tightening sea".

Lawrence was introduced to physical love by Alice Dax (the original of Clara Dawes), but he could not achieve a satisfying emotional relationship until after his mother's death in December, 1910. His love affairs at this time were an ugly mess, which the *Letters* richly illustrate without wholly illuminating. Thanks to the loss of his correspondence with his mother, his letters to Helen Corke and Jessie Chambers, anyone wishing to sort out the tangle of his emotions must consult the biography by Emile Delavenay, who interviewed Lawrence's surviving friends in the early 1930s. Nevertheless, the view we get from the *Letters* is fascinating, for all its incompleteness. Throughout this period his strongest attachment was to Jessie Chambers—his mother's sworn enemy—but in this context she is overshadowed by the other women to whom he writes, sometimes with an engaging literary-prize boyishness, and sometimes in terms which were chillingly disingenuous. He was as Rachel Annand Taylor, one of his more detached confidantes, remarked, certainly a cad, and probably also a snob.

Like so many of his intimates, Mrs Taylor attributed the flaws in Lawrence's personality to the "presence of genius". He was aware of his abnormality and, without doubt, of the deep contradictions in his behaviour as well. Partly he turned to his girl-friends for a physical experience that they were mostly too frightened to give him; thus he writes (I think) of throwing away two unused condoms —" my articles of temptation"—after an evidently frustrating weekend with Helen Corke. At the same time it was necessary to his search for wholeness that he should see his friends not just as soul-mates but as literary collaborators. Jessie Chambers was deeply wounded that he continued to solicit her approval of *Sons and Lovers* even after his elopement with Frieda. Helen Corke supplied the material for *The Trespasser*. Even Louie Burrows, the rather more conventional girl to whom he was engaged during 1911, had first attracted him by her creative talents. Frieda not only instantly recognized him as a "genius", but inveterably tried to claim the maximum credit for the directions his genius took.

Of all Lawrence's early relationships, only that with Louie Burrows can be deduced in its entirety from these letters. Lawrence summed her up as "big, and swarthy, and passionate as a gipsy—but good, awfully good, churchy". They had been fellow-students at University College, Nottingham, and kept up a desultory friendship until Lawrence suddenly proposed to her during a train journey, apparently as the result of a momentary impulse. The engagement was doomed from the start. After a few months, he was writing to Jessie that "as soon as I am alone with her I want to run away". This comment, coming at about the same time as his conception of Miriam in *Sons and Lovers*, is a sad example of his emotional duplicity. Louie, an undeserving victim of Lawrence's egotism, comes over as the most appealingly normal of all those who knew him intimately. Where Jessie and Helen had their say in books about Lawrence, her contribution to his memory was to keep his letters intact. Her rivals condemned her as a "girl of his mother's world", and spoke of her appeal to Lawrence as purely physical; he responded with broad hints to them that his "liberty" would in no way be restricted by his forthcoming marriage.

What he could not give her, Lawrence told Louie, was "the writer in me . . . the impersonal, artistic side". After the termination of the engagement, she became an outspoken primary school head mistress, not marrying until 1940. Her two journeys to the south of France in the early 1930s to visit Lawrence's grave testify to the depth of her devotion. She was seen there by Herbert Read, who thought her "a dispirited and sombre kind of person". Her transition from the high-spirited and rather shallow companion who could never really comprehend her fiancé's grief over his mother's death to a very English theme, but—although she is in some respects the model for Ursula Brangwen—it is not one which ever appealed to the writer in Lawrence. Of all English novelists, it is Arnold Bennett, whom Lawrence was to denounce for his "resignation" in his acceptance of the "oldness and grubbiness and despair" of English life, who could have done most justice to an experience like Louie's.

Lawrence's letter breaking off with Louie was written from Edward Garnett's country house, The Cearne, near Edenbridge. A few weeks later he visited The Cearne again, this time accompanied by Frieda. Garnett was the most genuine of his early literary friends, and the help he gave Lawrence was crucial. He encouraged Lawrence in his belief that he was "making history" by eloping with Frieda, and at the same time, diligently looked after his literary affairs while he began his now life in Germany and Italy. In Frieda, Lawrence had found somebody who could meet his demands as an artist and a "revolutionary" (her term), as Jessie and Louie never could. He claimed her at once as a permanent, ideal partner and as the person who held the reins of his creative destiny. Frieda let herself be swept along, sacrificing her marriage and her children but not her right to the occasional infidelity. Soon, the long struggle between them had begun. Whatever impression outsiders might have, Lawrence would continue to base his writings on the settled conviction that theirs was the best of all possible marriages.

Volume one of the *Letters* ends in mid-1913 with the Lawrences as happy together as they ever will be. Farewell missives have been written to Jessie, Louie, and Helen. The new ties whose painful progress is charted in Paul Delany's book have not yet been formed. D.H.L. has "come through", not only to his vocation as writer and prophet but to an episcopatory style that is vivid, direct, and—at the right moments—intensely powerful. He, is on the verge of the artistic breakthrough that gives to *The Rainbow*, and *Women in Love*, and whose manifestations Keith Cushman explores in *D. H. Lawrence at Work*, a study of the genesis of the Prussian Officer stories which conclusively dismisses any idea that these might be set aside as minor work. Cushman, having mastered the intricate chronology of the writings at this period, shows how Lawrence was able to bring his characters' social consciousness more clearly into focus, and also how he progressively de-individualized them in the light of his "impersonal" sexual metaphysic.

As a "priest of love", Lawrence came to stress the non-human element in humanity—the isolation and sexual polarity which transcended all considerations of social identity, and which could only be understood by recourse to the "dark mystery of the blood".

Thus he reconstructed his fiction on the basis of a love ethic which Cushman, uncharacteristically falling back upon the language of a somewhat discredited school of Lawrence critics, refers to as "complete" and "mature". His new mode of "passion-prose" had a doubly obscurantist function, since he was writing both to extol the unspoken, unconscious forces of life (he wrily compared himself to Carlyle who wrote 50 volumes on the value of silence), and in the forlorn hope of evading the censor. Characters' flaw to" and "lapse in" one another; the word "wank" is changed to "loins".

The biblical language is significant. Lawrence, as Jessie Chambers had realized very early on, was seeking in personal relationships to rediscover a "Garden of Eden". *D. H. Lawrence's Nightmare* traces the growth of his disgust with England and, parallel to it, his obsession with escape to a fantasized Utopia—which, increasingly, he located in America. He began hemping curses on England in retaliation against the social disapproval he had incurred by eloping with the wife of one of his professors. The habit became ingrained during the war years, in which he was repeatedly humiliated by the failure of his friendships and by the xenophobia directed against a non-combatant with a German wife—a xenophobia which eventually led to his expulsion from Cornwall on suspicion of spying. Lawrence had ample cause for his hatred of England, yet his hatred was virulent, unrestrained and, without question, damaging to his art.

Drawing on the great rash of Bloomsbury memoirs and biographies which have recently transformed Lawrence's contemporaries into pioneer apostles of sexual permissiveness—and of the morass of emotional blackmail, pettyteachery, and backbiting that has too often gone with it—Paul Delany has written a most impressive and readable, if somewhat acrid, portrait of this period of nearly unmitigated disaster in his. Hero's life. Where he touches on Lawrence's writings, Delany is more concerned to relate them to the life than to stress those moments in which they transcend its frequent emotional squalidity. Nevertheless, he has valuable observations to make about Lawrence's work, as when he describes *Women in Love* as "in a sense . . . one of the most remarkable war novels in English". Though its setting is prewar, the much-admired social analysis of "The Industrial Magnate" chapter in that novel makes no sense as a description of the psychology of industrialism which Lawrence could have observed in the Nottinghamshire coalfields. His stress on the totally mechanistic nature of the industrial system, and the eager self-destructive servility of the workforce, can be understood only in the context of trench-warfare, in which millions of working men went unresistingly to their deaths.

Lawrence suffered intensely from the hysteria of the Great War, as did the fellow-intellectuals whom he so consistently alienated. In *Kangaroo* he compares Somers's experiences during the war to those of Poe's narrator in "The Pit and the Pendulum"—with Armistice Day coming at the last moment before he fell into the pit with the rats. Lawrence sought to escape through the dream of Rananim, an ideal community to be set up by himself and Frieda with the help of fellow-pilgrims who included, at one time or another, J. M. Murry, Katherine Mansfield, Bertrand Russell, Lady Ottoline Morrell, E. M. Forster, Mark Gertler, Dorothy Brett, Philip Heseltine, Hilda Aldington ("D.H."), and others. Needless to say, all these pilgrims turned out eventually to be on the side of the rats—the latter being summed up, for Lawrence, by the sleek and epicene figure of J. M. Keynes.

The dream of Rananim itself—located, at various times, at Zennor (the virtual "last place in England" to which the Lawrences retreated to live), in Florida, and in the Marquesas Islands—is the only redeeming feature of Lawrence's frequently expressed misanthropy. Setting at Zennor overlooking the Atlantic, he came fervently to share the wish which Frieda had expressed as early as 1912, to get clear of Europe altogether.

In 1917 he embodied this desire in the finest of his critical writings, the *Studies in Classical American Literature*, a work which (typically enough) he rewrote in a much more hostile spirit at Taos in 1922-23. By then he had seen, something of the reality of his promised land, but Delany's comment on the matter is just a shade too glib: "Having come to America to pray, he remained to jeer".

And the later Lawrence? It may be enough to quote the retrospective verdict of Jessie Chambers, one of the prime sufferers from his remorseless sense of artistic destiny:

"He has helped me to extend enormously the territory of life and that is a godlike thing to do". In *Lady Chatterley's Lover* he makes an imaginative return to Nottinghamshire and its greenwood, rowriting in sexual terms, one might say, the myth of Robin Hood bringing joy to the deprived. But it is doubtful if this was enough to establish his "Englishness", which he had so comprehensively renounced by the end of the Great War. Lawrence, remains one of the ruthless frontiersmen of literature, whose true resting-place is the remote little shrine in the Sangre Cristo mountains of New Mexico.

Left: D. H. Lawrence; above right: Taos, New Mexico, Lawrence's "true resting place"; below right: Frieda

Patrick Parrinder

BOOKS

Battle of dinosaurs over social action theory

The Theory of Social Action: The correspondence of Alfred Schutz and Talcott Parsons
edited by Richard Grathoff
Indiana University Press, £8.75
ISBN 0 253 35957 0

In late 1938 or early 1939, Professor F. A. von Hayek invited Alfred Schutz, the phenomenological philosopher who had recently emigrated to the United States of America, to contribute to the LSE journal *Economica* a review essay of Talcott Parsons's book *The Structure of Social Action*. That epoch-making book had been published in 1937. In it, Parsons analysed the work of Alfred Marshall, Pareto, Durkheim and Max Weber, claiming to discover that these four authors had been converging on a "voluntaristic theory of action", which Parsons made explicit and advocated as of general relevance to sociology.

Schutz's review turned into a very substantial discussion of the theory of action, and in the autumn of 1940 he submitted the manuscript to Parsons for his comments. Their correspondence persisted into the spring of 1941, and included a series of three long letters from Parsons in response to Schutz's essay. After that, the interchange petered out and, despite protestations to the contrary, the two men's friendly feelings seem to have cooled somewhat. Schutz never published his essay, but now it appears for the first time in the volume edited by Richard Grathoff, together with the correspondence and a brief retrospective note written by Parsons in 1974.

The correspondence might be dismissed as a battle of dinosaurs. There are not many strict constructionist Parsonians about these days, and on present form phenomenology perhaps does not seem "the paradigm most likely to succeed". Nevertheless, these are historical documents of the first importance. After all, Parsons dominated sociology for two decades after the Second World War, and Schutz was posthumously the major influence on the various phenomenological schools which were prominent in the decade after the collapse of the Parsonian hegemony. More important, the issues in dispute are still fundamental to today's theoretical discussions.

In spite of the arcane matters involved, Grathoff has made this quite a gripping book. Surprisingly, given the well-known clumsiness of his prose, Parsons seems to make his points more clearly than Schutz. Certainly he makes them more pugnaciously. Schutz's tone is complimentary throughout. He repeatedly speaks of Parsons's "great work", while seeking to clarify points which he considers it does not resolve. Parsons's replies are sharp, perhaps excessively prickly. As he recognizes he was possibly over-sensitive to criticism emanating from the German-speaking academic milieu. Schutz's remarks are on a plane above most American comment of the period on *The Structure of Social Action*. But equally, they seem also to be on a different (not necessarily higher) plane from Parsons's. The two seemed, as Parsons observed, "unable to have a meeting of minds".

Parsons makes it quite clear that in his book he had not considered strictly epistemological questions to be central to his concerns. The voluntaristic theory of action was to be judged by how useful it proved in actual sociological work. Schutz does not deny that it may be useful for many purposes, but as a phenomenologist he wants to put a more radical interpretation on "the subjective point of view". "The theory of social action", he remarks, "stands or falls with the results of an analysis of the relation between the subjective point of view and the terms which sociologists actually use in performing their concrete research work." Parsons very tellingly points out that nowhere in his essay does Schutz make reference to any of the substantive sociological concerns of Parsons's four key writers, consideration of which occupies the bulk of *The Structure of Social Action*. Furthermore:

> Again and again, in reading your work, you make points which as they are stated sound perfectly plausible, but I am always compelled to ask the question 'what of it?' If I accept your statement in place of any own formulations which you criticize, what difference would it make in the interpretation of any one of the empirical problems which run through the book, or in the formulation of the systematic structure of theory? I am certainly not prepared to say that in no case would they make any difference, but there is certainly not a single case in your essay where you demonstrate that it would, or what difference would be.

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Stephen Mennell

Dilthey: measuring his achievement

Wilhelm Dilthey: the critique of historical reason
by Michael Ermarth
University of Chicago Press, £13.30
ISBN 0 226 21742 6

Wilhelm Dilthey enjoyed a great reputation among philosophers and others in his lifetime and has continued to be studied intensively ever since; in some ways he counts as the German equivalent of a Victorian sage. The question is, however, just what his achievements amount to.

The first thing to be said here is that they were not confined to the sphere of philosophy proper: Dilthey wrote a series of penetrating and perceptive studies in literary and intellectual history (his life of Schleiermacher and essay on Hegel's early thinking may serve as examples), and these remain instructive whatever the verdict on his more theoretical writings. But though these works justify his reputation as a sage, it was as a philosopher that he always wanted to make his mark. Working with the distinction, taken over from Mill, between the natural and the "moral" sciences, he made an intensive effort to pin down what was peculiar to each and what, if anything, they have in common. Over a period of more than 50 years he tried to produce "a critique of historical reason" which would do for the *Geisteswissenschaften* what Kant had done for the *Naturwissenschaften*. The critique was never brought to a conclusion, and the lengthy preparatory studies Dilthey published contain doctrines which are by no means obviously consistent. Nevertheless both the general idea and the details of Dilthey's treatment remain intriguing, as the existence of this substantial volume shows.

Dr Ermarth's is the most serious study of Dilthey to appear in English since the two works published by H. A. Hodges in 1944 and 1952; it reproduces the solid qualities of the second of these, without unfortunately attaining the liveliness of the first. Where Dr Ermarth improves on Hodges is first in apparently knowing much more about Dilthey's extensive *Nachlass*, from which he quotes repeatedly, and second in entering more fully into the controversies and developments to which Dilthey's philosophical work was a reaction. It is less easy to discover from Dr Ermarth just what Dilthey was trying to say at a particular time, though topics are treated broadly in chronological order; against that there is a sustained attempt, once the book is under way, to present Dilthey as a thinker who is often right and never negligible. While admitting that Dilthey was one for whom there were no "final words" in philosophy, with the result that he never attained a definitive view, Dr Ermarth nevertheless offers a vigorous defence of his central doctrine of *Verstehen*, denying the accusations of subjectivity and arbitrariness often brought against it, and gives a sympathetic account of the accompanying theory of expression, which again is shown to be more subtle and substantial than is commonly made out. Dilthey as seen by this interpreter regards mind and its expressions as social phenomena in a way natural in one so much influenced by Hegel; to interpret such expressions in individual details is the characteristic task of the humanist.

At the same time, however, Dilthey sought constantly to bring general knowledge to bear on the understanding of concrete events. At an early stage this was to be done by adducing the propositions of a revised and humanized psychology; later there was talk of *Lebenserfahrung*, a kind of unsystematic common knowledge, fulfilling this function, and later again of "types" which play a role "between that of law and of the ideal". Dilthey no doubt never got clear in his own mind how the human studies combine appeal to the general with attention to the concrete. Yet it remains of interest precisely because he refused to choose unequivocally between Windelband and Rickert on the one hand, with their absolute distinction between "nomothetic" and "idiographic" studies, and the positivists on the other, with their belief in the unity of science and conviction that there was nothing peculiar to the thinking of humanists unless it was weakness of mind.

There can be no doubt that Dilthey was a compromiser: two of his siren voices rang in his ears and he never managed, or perhaps wanted, to shut either out. The compromise is not always convincing and are at times embarrassingly feeble. Yet he remains a philosopher of more than ordinary interest, and Dr Ermarth has done service in producing this careful study of his thought.

W. H. Walsh

BOOKS

The number you first thought of

Gödel, Escher, Bach: an eternal golden braid
by Douglas R. Hofstadter
Harvester Press, £10.50
ISBN 0 85527 757 2

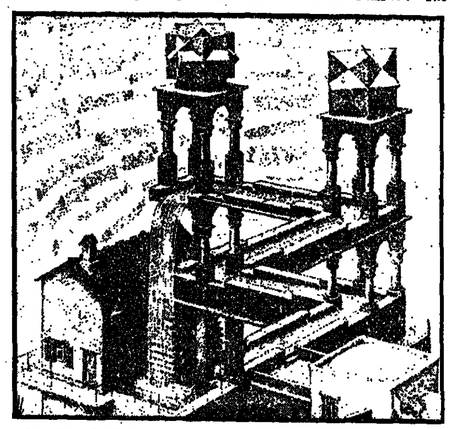
Gödel's Incompleteness Theorem simply states the inevitable failure of any consistent system of axioms (for a branch of mathematics complex enough to encompass elementary arithmetic) to capture all the expected true results as derivable theorems. But the *proof* of this result introduces ideas which the author of this book sees as of much wider application.

The outcome is a huge expansive argument, delightful to read, which acknowledges its debt to Lewis Carroll, but is also in the spirit of *Tristram Shandy* and could only have been written after James Joyce. Since one skeleton of the book is a simplified version of Gödel's proof it can be seen as a popular book; but this suggestion is belied by the hard reasoning which comes out of the Gödel circle of ideas, so that in the discussion of such a range of topics as the related psychology of music and mathematics and of hierarchical levels in both artificial and real intelligence it is a work of scholarship.

One of the author's great loves is evidently Bach, and the fugues, and he has been at pains to construct the whole argument as a sequence of verbal preludes and fugues—the formal argument in each chapter forming the prelude, which is then followed by a light-hearted dialogue which often has a fugal form and which provides an introduction to the following chapter. The physical form of the book owes much to new technology, for computer typesetting has enabled the author to print his own book (and even the music examples are set up by a music printing programme). One could not guess this from internal evidence, but it does mean that what we see is exactly what the author wished.

One of several ways into the argument is to consider the two sentences: "The following sentence is true. The preceding sentence is false." This is a version of the Cretan paradox, but the form with two sentences has some advantages, since one can see that each sentence is locally consistent, and it is only by taking a global view of the whole that one runs into trouble. Now there is evidently a close analogy, if no more, to the Escher picture of two hands, each drawing the other. And then, among Escher's work, there is a connexion with the continually ascending staircases and the continually flowing water in a channel which loops back on itself, although it includes a waterfall. Those pictures in turn bring to mind Bach in the *Musical Offering*, which contains a continually rising canon—that is, a canon which contains a subtle modulation so that after one round the participants are at the beginning again but in a higher key, and so after six they have returned to the same key (but of course an octave higher). The musical example brings out explicitly what is perhaps hidden somewhat deeper in the others, that such "strange loops" bring ideas of infinity into a discourse which is ostensibly finite. Bach noticed this, since he wrote in the margin (the "Offering" being to Frederick the Great), "As the modulation rises, so may the King's glory".

But to return to the original verbal loop, the key to Gödel's proof is the modification of this to: "The following sentence is provable. The preceding sentence is unprovable." (Here provable must be taken to mean provable in some formal system, with precise rules of inference.) A moment's thought will show that the first sentence can be false only if it is none the less provable, so that the system is inconsistent; if the system is consistent, then the first sentence is true and therefore unprovable, so that the system is incomplete. What is essential here is that the language should be able to refer to itself, and this is the function of the elementary arithmetic in Gödel's statement of the result, since it is (now) fairly commonplace that the natural numbers are adequate for coding the formal systems of mathematics.



"The Waterfall" by M. C. Escher links together two impossible triangles, with the falling water forming one limb of each triangle. It is reproduced in John F. Prieby's Seeing: illusion, brain and mind (Oxford University Press, £6.95), which analyses the processes of perception and illustrates its thesis with visual illusions.

One of the author's purposes, then, and it is the one which takes up most room, though it is not the main one, is to explain the part played by this arithmetical coding in Gödel's proof. He begins with the formulation of an example of a formal system, a Post production system in fact, and gives an interesting discussion of the way in which isomorphisms induce meaning. But of course there is an important difference between such a "passive" meaning in a formal system and the "active" meaning which a word may have in a natural language, where an understanding of the meaning of a word allows one to construct new sentences containing it. When he goes on to the standard correlation between the properties of being recursively enumerable or recursive, and the existence of decision procedures for sentences belonging to the set of theorems or of non-theorems, he compares this very effectively to the duality between figure and ground both in art (and Escher again provides many examples) and in music (Bach again in his sonatas and partitas for unaccompanied violin, where, either by double stopping or by the trick of putting one melody on the off-beats and one on the on, the same ambiguity is produced). But the application to formal systems gives a surprise for which the artistic examples do not prepare one; for there exist formal systems whose "ground" (set of non-theorems) is not the "figure" (set of theorems) of any formal system. There are similar asides in much of the remaining argument of Gödel's theorem, which follows fairly standard lines, by introducing the predicate calculus in a natural deduction form, then number theory and omega-incompleteness. In one very interesting section, the author discusses the proof he has just given—one occupying 56 lines of formal derivation:

> Even if you do not follow this derivation in detail, it is important to realize that, like a piece of music, it has its own natural "rhythm". . . . I have inserted "breathing marks" to show some of the "phrasing" of this derivation. Line 28 in particular is a turning point in the derivation, something like the halfway point in an AABB type of piece, where you resolve momentarily, even if not in the tonic key.

This is a brave, and partly successful attempt to put some flesh on the rather tired bones of the phrases about the affinity between mathematics and music.

The whole book itself maintains a most careful tension. Before the Gödel arguments are brought to a conclusion, the path leads off into artificial intelligence. Here there are two main lessons: the role of self-reference, and the part played by a hierarchical structure. In the light of all that the book has to say about these, Hofstadter wants one to reconsider the question, "How is it possible to programme intelligence". It is not a contradiction, he urges; rather,

> confront the apparent contradiction head on, to savour it, to turn it over, to take it apart, to wallow in it, so that in the end the reader might emerge with new insights into the seemingly unbreachable gulf between the formal and the informal, the animate and the inanimate, the flexible and the inflexible.

You will not be surprised to find that the last page of the book provides a careful introduction to the first.

C. W. Kilmister

The development of social work

Social Work in Britain 1950-1975: a follow-up study, in two volumes
by Eileen Younghusband
Allen & Unwin, £12.50 per volume
ISBN 0 04 360043 3 and 360044 1

The change in the position of social work in Britain during the postwar period is a fascinating phenomenon. In 1945 those who considered themselves social workers were small in number, mainly women on very low pay if they were paid at all, scattered in ones and twos or perhaps small groups in numerous organizations. Most of the organizations were supported by voluntary subscriptions in whole or in part; very few of the workers had any training at all. For those who did receive training an introduction to the social sciences was topped up with a form of apprenticeship. The stereotype of a social worker was probably of either a patronizing philanthropist or a kind-hearted sentimentalist, depending on one's perspective.

Thirty years later Eileen Younghusband's study lists 100,000 people employed as social workers, over 8,000 qualified workers are shown as coming from training courses each year, and this training includes theoretical studies of direct relevance to practice. Most of these social workers are shown to be employed in large organizations under control of central government, under control of considerable management, with considerable corporate influence on aspects of policy in the social services. The television stereotype of a social worker, now as probably of a local government official with substantial power over individual lives, using it in a sentimental and misguided way, [illegible]

The process through which these changes have taken place has also been a considerable interest in the series of reports has been brought to public attention, sometimes associated with dramatic events, such as the death of Dennis O'Neill in 1944 and Maria Colwell in 1973, or the rapid increase in juvenile delinquency from the mid-1950s. Committees of inquiry, and departmental and interdepartmental committees have been set up (but not as yet a Royal Commission). The members of these committees have been selected for their interest in social work and their recommendations have proposed that the responsibilities of social workers should be extended, new organizations created or old ones enlarged, and increased resources devoted to training. The recommendations have generally been implemented, and the increased training has provided a springboard for a process of professionalization. Each change has created a stronger power base on which further developments have been founded. But this increase of influence has seemed to many people to run alongside a progressive deviation from the values on which social work was founded. A wide range of social theories from such fields of study as sociology, politics and organizations can be drawn on to throw light on how this process has occurred and how it has affected the services that people have received.

When one wants to understand the meaning of this phenomenon it is necessary to turn to other theories about the nature of western democratic societies. As one examine one can take a functionalist view, seeing the social services as a response to need within the social system, restoring an equilibrium that has been upset by technological and other changes. In this context the development of social work can be seen as a response to the recognition of new or previously hidden social needs, a filling in of important gaps left by the economic market and specialised services like housing, health and education which have neglected the importance of social relationships in meeting social needs. At the other extreme is a Marxist view which sees the social services as a means of bolstering up the power and privilege of the few by purchasing goodwill, or by directly supporting the ideology which provides the rationale for the status quo. In this context social work is seen as a means of social control which has been expanded because it is more acceptable but no less effective than other means.

Of the whole Eileen Younghusband's volumes throw little light on issues such as these. She is not much concerned with theory except in so far as it enters into people's arguments about specific changes, as for instance, in the half-chapter on "Changes in Casework Theory and Practice" and in her account of the changing theoretical basis of workers in the Home Office Community Development Projects. The aim of the book is essentially descriptive rather than analytical. As she says in the introductory chapter:

> The focus is on changes over the 25 years between 1950 and 1975, as by degrees new attitudes about the nature of social need resulted both in more services and a change from officials administering the regulations to social workers giving a professional service. This study aimed to discover what social workers actually did at different periods; as well as what was discovered about their appropriate use.

This is the only statement of its objectives I could find in the book.

Within this brief, these two volumes cover a wide range of events in many of which Dame Eileen herself has been closely concerned. However she keeps herself out of the picture as far as possible, and endeavours to avoid presenting a personal view.

The first volume is primarily concerned with the development of specific services, such as the child care service, the probation service and services for the elderly and handicapped. In each case attention is given to developments in the work, in organization, in training, and, where relevant, in residential provision. She excludes, as the Seebohm Report did, the social work functions of what Rodgers and Dixon in *Portrait of Social Work* called "part-time social workers" such as health visitors, and education welfare officers. This section leads up to the Seebohm Report and the creation of local authority social services departments.

Given the way social work services were split during this period, it would probably have been difficult to organize the material in any way other than on the lines of separate services. The absence of a theoretical framework made it inevitable, but will also make it more difficult for readers unfamiliar with the story to put the picture together. The result is a series of short, clear historical accounts which can be read separately with profit and used as the basis for further reading to which reference is constantly made. In the last 40 pages some common theories are tackled, although still mainly on a service by service basis including problems of recruitment and staffing, salary scales and workloads. These are an interesting reminder of the conditions of only 20 years ago, although some of the comparisons could usefully be clarified—for example some indications of average earnings outside social work. One would also like to have had more recognition of the fact that the social services departments are commonly believed to provide an unsympathetic environment for good social work. Is this just a continuation of past limitations, a new decline in quality, or the result of measuring current practice against a new and higher standard? Perhaps the question cannot be answered, but today it is certainly an important one.

The second volume deals mainly with more general issues, such as changes in education for social work (part one), and developments in theory and practice and in professional associations (contributed by leading members of each association) (part two). These chapters give a much more vivid picture of the turmoil created by changing ideas during the studies in the first volume. No doubt this is partly because of Dame Eileen's own personal involvement. Nevertheless, to give real life to a picture and the conflicts engendered by change one needs to read Pinsent's account, in his *Social Policy and Administration Revisited*, of the introduction of generic training in the LSE. Dame Eileen does not refer to this, nor is it mentioned in her bibliography.

The final sections turn to some specific issues. Part three looks at the needs of some special subgroups that cut across conventional service boundaries, such as one-parent families and violence in families. The four goes "beyond the boundaries of social work" as currently defined to look at community work and youth service. The first of these provides an excellent summary of the ideological problems presented by the Home Office Community Development Projects. These problems are so basic to many of the conflicts about the role of social work in general, one feels they should have been aired much sooner.

Because it has no theoretical framework to give it unity, this work is not easy to read as a whole. It contains a great deal of information, including excellent summaries of numerous reports and studies and of the controversies that were associated with them. Because there is so much detail in it, anyone not already familiar with the studies in the first volume will find it thorough in its coverage and will provide an invaluable source of information and of references for students and others wishing to pursue specific topics.

R. A. D. Forrester

Stellar revolutions

Theory of Rotating Stars
by Jean-Louis Tassoul
Princeton University Press, £25.00 and £9.40
ISBN 0 691 08211 1 and 0 691 8214 6

Even in the biggest, most powerful telescope used today, stars appear as points of light. There is only one exception, namely the star we call the sun which, a mere eight minutes away from us, gives us our only chance of a close-up of a star. Apart from that nearby star, whose visible face can be studied in detail, all the information that we possess about the stellar host comes to us by an examination of the faint starlight entering our telescopes.

With the aid of the camera and the spectroscope, the computer and the human brain, we can deduce a great deal about the structure of those points of light. We can deduce the size of the star, its age and surface temperature, its composition, the relative abundance of the elements making up its substance, whether it is receding or approaching us and at what speed, whether it has a magnetic field and if so of what strength, whether it is a single star or is in reality two stars bound in orbit about each other by their mutual gravitational attraction. Astrophysics is the branch of astronomy that deals with such matters and the present monograph is part of a new international series in astrophysics published by Princeton University Press.

As the title indicates, the present book deals with the theory of rotating stars, a subject begun in the year 1610 when Galileo made his systematic study of the moon's surface by telescope. Discovering the existence of sunspots, he correctly inferred the spots to be part of the sun itself and by measuring their movement measured the rotation of the sun. In the second half of the nineteenth century, the discovery of the Doppler effect and the creation of powerful spectroscopes used in conjunction with the camera, established the rotation of some of the brighter stars. By this time the theory of the structure of stars was being developed and by the beginning of the twentieth century the science of theoretical astrophysics was making rapid progress.

In the first three chapters the author provides a historical sketch of stellar rotation and gives the main observational data on the sun and other stars on which the subsequent theory is based, including the basic Newtonian hydrodynamics used to study rotating stars. In subsequent chapters techniques in setting up stellar models are discussed. The subjects of stability under small oscillations, the angular momentum distribution, meridional circulation, the solar differential rotation, the problem of solid body rotation versus differential rotation, collapse and fission, the evolution of stars, rotating white dwarfs, stellar magnetism and rotation, and rotation in close binaries, also have chapters devoted to them. There is also an epilogue in which Professor Tassoul comments on the state of the subject today, five useful appendices and excellent indices of names and subjects. At the end of each chapter there is a valuable list of references devoted to the subject matter of the chapter.

The book is written in a most readable style and is indispensable to anyone carrying out research in the theory of rotating stars or to anyone who wishes to be better informed about the subject. Advanced undergraduate students and postgraduate research workers should find it full of information with clear diagrams and formulae.

A. E. Roy

Semiconductor applications

Elementary Semiconductor Physics
by H. C. Wright
Van Nostrand Reinhold, £8.00 and £3.75
ISBN 0 442 30198 7 and 30250 9

The author's emphasis is on semiconductor physics as applied to useful devices. He is not concerned here with how the devices are made, nor with their applications, so there is no mention of integrated circuits, nor even of microprocessors. This does not imply that the book is old-fashioned or out of date. Rather it suggests that the author is more concerned with the devices of the future than of the present day, as may be seen from the single page given to the function and circuit operation of a bipolar transistor, in contrast to four pages on magnetic resistance, and three on thermoelectric effects. The book can therefore serve better to educate scientists—inventors of new devices—than those engineers who need to master fully the subtleties of actual, existing devices.

When viewed as a teaching text, praise must be carefully qualified. The topics are well selected and are covered to a usefully advanced level, but the compressed style could cause difficulties to a student using the text alone as a way of studying the subject. If the book is thought of as an adjunct to lectures, so that the reader has been introduced to the main concepts already, then a study of the text would be an excellent way of checking details of an argument.

Two unfortunate misprints have been noted—on page 40, photon appears for phonon in the definition of the latter, and on page 69 "high temperature and low frequency" needs to be "low temperature and high frequency".

The A4 page size means that the 77 pages of text contain as much material as perhaps 150 pages of a "normal" textbook, and the technical journal appearance given by the double column layout is appropriate to the topic.

Where experimental graphs are drawn these are idealized sketches. I prefer selected real measurements, but then all the details are in one sense right, though the applicability is correspondingly narrower.

On balance the book is a success, its particular strength being the treatment at an early undergraduate level of topics normally postponed to final year or postgraduates courses.

D. A. Fraser

Quantum physics made simple

Simple Quantum Physics
by Peter Landshoff and Allen Metherell
Cambridge University Press, £10.00 and £3.50
ISBN 0 521 22498 5 and 29538 6

Less modestly, but describing more fittingly the spirit in which it is written, this admirable little book could well have been entitled "Quantum physics made simple". After a basic theoretical introduction of some 50 pages, backed by six short appendices, less than another hundred pages suffice to encompass an imposing selection of topics to interest the experimental physicist and engineer. Although scattering phenomena are eschewed entirely, the wide scope of the book is demonstrated by such examples as the hydrogen molecule, electric dipole radiative transitions, the ammonia maser and ruby laser, crystal band structure, and the field-effect transistor.

These are hardly simple matters, at least for the great majority of undergraduates for whom this book is intended, and, it might be thought, impossible to deal with satisfactorily in so few pages. Nevertheless, using a nicely judged combination of mathematical argument and qualitative persuasion, and leaving the mention to later, after itself, the authors do carry the reader along in a most convincing manner, and at such speed to their objectives that he can hardly fail to be impressed by the power and range of quantum mechanics at the atomic level. He has then the motivation for rereading and studying further the difficult analysis through which his has been led in such breathless fashion and which, had he lingered upon it, might well have deterred him from completing the journey. And if he works diligently through the plentiful selection of problems he should achieve confidence as well as understanding.

It certainly is a breathless journey. Bridges and by-passes of the "it may be shown" type appear, inevitably. Electrodynamics is summarized in a two-page appendix; lasers are rounded off with a three-page digression (the authors' description) on holography; and transistors with an equally short discussion of two simple circuits incorporating them. Brevity, however, is not a cover for slipshod treatment; for it is achieved with succinct authority—the appendix on the delta function and Fourier transforms is especially impressive in this respect.

In presenting a wood without the confusion of its trees this book could hardly be bettered. There is, unfortunately, an inescapable complement to this—the cautious, critical reader may feel that a more apt metaphor would be the deceptively attractive iceberg to conceal ing enormous hidden difficulties.

N. C. Barford

BOOKS

The Irish in America

American Opinion and the Irish Question, 1910-1923: a study in opinion and policy
by F. M. Carroll
Gill & Macmillan and St Martin's Press, £12.50
ISBN 0 312 02890 3

Professor Carroll's book is one of the most ambitious studies as yet undertaken in the field of twentieth-century Irish studies. He has chosen a topic—the analysis of public opinion—which more faint-hearted historians might fight shy of. He has covered a broad chronological sweep—from the third Home Rule Bill to the establishment of the Irish Free State—which might deter the historian who prefers to find out a lot about very little. And he has taken as his area the United States of America, a country whose geographical particularisms might cause some to doubt whether there can be such a thing as "American opinion" in any real sense.

However, Professor Carroll is in the happy position of not having bitten off more than he can chew. Setting aside methodological doubts, he moves his narrative briskly along. He concerns himself with two mainstreams of American opinion: that of the Irish-Americans, an ethnic group whose forebears emigrated from Ireland in the early nineteenth century to escape economic hardship; and what Professor Carroll calls "native Americans", of English descent (and, surely, Ulster Scottish descent), who were the founders of the United States.

There are considerable differences between these categories. "Irish-Americans formed a well-organized, tightly-knit section of American society, albeit one prone to fierce internecine quarrels, and were a pressure group operating to influence American policy towards Ireland and Great Britain. "Native Americans" did not have these organizational skills and only at rare moments did they combine to launch a campaign on a specific issue, as they did in 1920 to counter pro-Sinn Féin propaganda. Professor Carroll seems happier when dealing with the more easily identifiable Irish-Americans than with the somewhat less clear cut "natives"; and were these "natives" to be found thinking alike in middle America and on the east coast? Only a series of regional studies would answer this question. On the other hand, to undertake a region by region analysis of this kind would be to saddle oneself with a lifetime's work; and, in all probability, the results would not be commensurate with the labour.

The analysis of public opinion presented in this book is, therefore, one without graphs, statistical tables, maps with black dots, maps with shaded portions, and it is all the better for that. The result is a clear and satisfying picture of American opinion, with a huge mass of material well organized and presented.

Professor Carroll handles the second part of his problem—the impact of American opinion on American and British policy—with equal success. He is careful not to claim too much for his subject. He freely admits, for example, that Irish-Americans had little influence on the making of United States foreign policy: no American government was prepared to put Ireland before American interests; no American political party was prepared to adopt Irish issues as a plank in its election platform. Such success as the Irish-Americans enjoyed was mainly because their campaigns coincided with some development in United States politics. Their campaign against the League of Nations because it had ignored Ireland's "right to self-determination" meshed with that of native Americans who objected to the League because it constituted a break with the American tradition of non-entanglement with other powers, and because it subverted the constitution and by-passed the Senate. But the attempts by Irish-Americans to link the cause of Irish freedom with that of Germany in the First World War rebounded disastrously when America herself entered the war in 1917.

Professor Carroll argues that American opinion had a greater impact on British than on American policy. He notes various occasions when the British government was anxious about American reaction to Irish affairs, though he does not strain his argument by claiming that this influence was anything more than "a factor to be carefully considered". Once again Professor Carroll rightly emphasizes the importance of the wider world. British anxiety over American reactions to Irish policy reflected the state of Anglo-American relations at a crucial period when Britain was trying to bring America into the war, keep her there, and maintain relations on a friendly footing afterwards. In the nineteenth-century Britain could largely ignore foreign criticism of her government of Ireland because she was in a position of isolation and strength; and Britain's change of mood after 1914 reflected the changed world position when appeasement would soon be the order of the day.

Probably the most potent influence of American opinion, or, more precisely, Irish-American opinion on the Irish question was its impact on Irish nationalism itself. Irish-American nationalism was generally more advanced, more revolutionary, than nationalism in Ireland, though occasionally it was prepared to support the constitutional Home Rule movement under both Parnell and Redmond. After the 1916 Rising the advocates of revolution gained the upper hand in America as they did in Ireland, and from then on America was a constant source of money, propaganda and support for the nationalists in Ireland, however much internal disagreements might fragment the Irish-American organizations and dissipate their resources.

These disagreements highlight certain inconsistencies in Irish nationalism. If nationalists could not agree among themselves, how did they suppose they would unite the whole people of Ireland, Protestant and Catholic, in one brotherhood? Nor were Irish-Americans free from racial slogans of the most brutal kind. One faction saw fit to refer to Eamon de Valera, the self-styled chieftain of the Irish race, as a "half-breed Spanish American Jew". With friends like the Irish-Americans, Irish nationalists might be forgiven for thinking sometimes that they did not need enemies.

Still it is easy to dislike the Irish-Americans, and to point out the inconsistencies of their cause. Professor Carroll properly reminds us that they were a people who were rejected by many native Americans on account of their religion, their brogue, and their poverty. It is hardly surprising, then, that they fell back upon a fierce pride in things Irish, even upon things stage-Irish. Even those who came later, not to escape from famine but simply to better themselves, clung to their traditions and to their imagined traditions. As Professor Carroll shows in this well-balanced and carefully written book, not the least of the paradoxes of modern Irish nationalism is that most of its most extreme and tenacious exponents were to be found thousands of miles from their native land.

D. G. Boyce

Compare and contrast

The Low Countries 1780-1940
by E. H. Kossmann
Oxford University Press, £15.00
ISBN 0 19 822108 8

This study of the history of Belgium and the Netherlands is a valuable contribution to a field which is far from over-supplied, especially where works in English are concerned, though the decision to deal with both countries in the same volume might be questioned, as this seems to imply either that they are too unimportant to deserve separate volumes, or that their histories have been inseparably intertwined.

Kossmann, however, has found not only enough similarities in the history of the two countries to make this approach fruitful, but also sufficient illuminating contrasts. Despite the marked differences between them in the late eighteenth century—the one independent and the other under Austrian rule, the Dutch relatively highly-developed economically and the Belgians much less so—there are some remarkable similarities in their later development. The growth of democratic institutions and the extension of the franchise took place at a similar pace and in a similar manner, and the development of powerful religiously based political parties affected both societies profoundly. On the other hand the slow but successful assimilation of the Dutch Catholics contrasts sharply with the complete failure of Belgium to deal with the Flemish problem.

Kossmann's primary concern is with political history in its broadest sense, though he rarely goes into the details of constitutional changes or the minutiae of politics. Economic developments are broadly sketched, largely to help explain political and social history. Here, of course, is one of the major differences between the two countries: both the timing and the nature of their industrial revolutions were very different. Moreover, despite Belgium's early industrialization, the Netherlands remained richer for most of the nineteenth century, and went ahead again in the interwar period.

One similarity particularly emerged stood by Kossmann is the high degree of bourgeois dominance in the politics and society of the two countries. He gives as a striking example of this the activities of the Netherlands Overseas Trust Company and the *Comité national de secours et d'alimentation* during the First World War. These two organizations led and controlled by bankers, businessmen and shipowners; the first assumed responsibility for reaching responsibilities for the trade, while the second organized the food supplies in occupied Belgium. Kossmann sees them as examples of bourgeois elites demonstrating their real power in war.

However, it is perhaps the process of *verzuiling* or "pillarization" which is the most distinctive feature of the history of the state. As Kossmann points out, *Verzuiling* means that society enables all the main groups in population, Catholics, Protestants, socialists, humanists, etc., to realize their everyday life exactly as they wish: to have their own schools, youth associations, universities, sports clubs, trade unions, and employers' associations, their own social security institutions, and, for the cultured minority of the masses, their own theatres, choirs, reading clubs, and so on. The Netherlands, even their broadcasting associations. This system has marked the Netherlands more clearly than Belgium, it has had important effects on the latter country as well. The strong religious parties, almost against their will, came to adopt the pillarized system, is told with a fine perception of the paradoxes in their situation.

Kossmann's discussion is characterized by a detached irony which is always interesting. It is well worth reading, and will repay careful reading.

J. L. H.

This week's reviewers

N. C. Barford is director of undergraduate studies at Imperial College, London;

D. G. Boyce lectures in government at University College, Swansea;

R. A. D. Forder is head of the department of social work at Liverpool Polytechnic;

D. A. Fraser lectures in physics at Chelsen College, London;

C. W. Kilmister is professor of mathematics at King's College, London;

Stephen Mennell is senior lecturer in sociology at Exeter University;

Patrick Parrinder lectures in English at Reading University;

J. L. Price lectures in history at Hull University;

F. B. Singleton is chairman of National Association for Soviet and East European Studies;

W. H. Walsh has just retired from the chair of philosophy at Edinburgh University.

Marxist purity with a xenophobic tinge

Socialist Albania since 1944: domestic and foreign developments
by R. J. Miller
MIT Press, £14.00
ISBN 0 262 16070 6

Albania is in many ways a singular country. Its language, although of the Indo-European family, and containing many borrowings from its Slav, Greek and Turkish neighbours, has no close relatives; it is the only European country in which the majority of the inhabitants are inheritors of an Islamic religious tradition; it is the only country which has officially abolished religion; it is the smallest and least industrial European communist state, and the only one which has quarrelled bitterly and publicly first with Yugoslavia, then with the Soviet Union, and now with China. Its present leaders regard themselves as the only pure and principled exponents of Marxist Leninism, as they have recently told the Chinese leaders in a long letter accusing their former allies of treachery, wavering and chauvinism.

Peter Prifti's book attempts to explain the singularity of the land of his birth. Since he arrived in America at the age of 15, he has not, of course, been able to return to Albania to see for himself. He has, however, the great advantage denied to most Western academics, of being able to read Albanian. Apart from a few Western secondary sources, he relies heavily on official publications, reports of speeches by Enver Hoxha and Shehu and articles in *Zeri i popullit*, Albania's answer to *Pravda*. The book is an important addition to the meagre library of informed literature on Albania.

It has some of the defects of any book written by an emigré who must observe a "front" but it makes a genuine effort to be fair-minded, at times giving more credit than is perhaps due.

It becomes clear from Mr Prifti's account that, despite the denunciations of Russian, Yugoslav and Chinese nationalism, which form an important element in Albania's grievances against its former friends, a recognition of the strength of Albanian nationalism is an important clue to the understanding of its present position. The author himself and his fellow Albanian-Americans are not immune from this sentiment. It leads him to accept less critically perhaps than would a non-Albanian commentator, the apparent success of the Hoxha regime in its encouragement of the arts. "Considering that culture—in the sense of aesthetic and intellectual enrichment—was almost totally absent in the lives of most of the population prior to the war, the achievements of Albania in this area have been remarkable". Strangely, he argues that the cultural resurgence stems primarily from Albanian nationalism, "from the powerful yearning for cultural affirmation that had been bottled up for centuries; yet at the same time he thinks that "Albanian arts and culture are predominantly Western in origin, inspiration and character." He plays down the Islamic tradition and argues that religion in general set rather lightly on the Albanians, who "have never been a deeply religious people".

It is interesting that 20 pages of the book are devoted to a chapter on women's emancipation, a topic frequently ignored by male authors. Clearly this is a vital question in a country with an Islamic background, the majority of whose people until recently lived in peasant communities. Both traditions suggest patriarchal societies in which women were treated at best like servants, at worst like slaves. The "abolition" of religion was used as an important step in the freeing of women from the worst forms of domestic servitude. Certainly, the bastions of male domination at home were breached when thousands of Moslem women were encouraged to leave home to work in such semi-skilled jobs as road-sweeping, railway and electric cleaning plants—but whether the foreman of the construction gangs treated them with greater consideration than their husbands is another question. Of the 46 per cent of women in the labour force today, a high proportion are unskilled labourers and farm workers. Was the "emancipation of women" a device to obtain cheap labour or was it as Mr Prifti thinks, a genuinely progressive step?

Hoxha, who was educated in France, is an enthusiast for certain forms of Western music and literature, particularly opera and classical music. Among his favourite authors are Balzac, Molière, Montaigne and Shakespeare. Like many authoritarians of left and right, he cannot tolerate "the merchants of decadence"—Joyce, Proust, Kafka, Picasso, Ionesco and Beckett—and long-haired, jeans clad jazz fans receive shorter shrift in Albania than they ever did a few years ago in the Greece of the Colonels, or as they do now in Lee Kuan Yew's Singapore or Husak's Czechoslovakia. Culture, like every other aspect of Albanian life, is expected to be "national in form, socialist in content". Both elements are apparent. The emphasis on folk traditions is reminiscent of the national revivals which swept the post-Napoleonic central and Eastern Europe. The projection of national heroes like Skanderbeg, the fifteenth-century rebel against Ottoman rule, and even of the remarkable Bishop Fan Noli, is more of a wide European culture, who was prime minister for six months in 1924, is part of this effort to bolster national self-respect. Even Hoxha's strident affirmation of his Marxist purity has a xenophobic tinge.

On the whole, the Albanian regime believes it has little to learn from the rest of the world, and much to teach. In attacking those who suggest that Albania should follow the course of European development" Hoxha himself has said "No comrades, we cannot and should not follow the "European road" on the contrary, it is Europe that should follow our road, because from the political standpoint, it is far and away the best."

F. B. Singleton

Batsford, in association with the National Portrait Gallery, published two volumes of the Dictionary of British Portraiture, edited by Richard Ormond and Malcolm Rogers. The volumes are £20 each, and the series is outstanding. Volume one, The Middle Ages to the Early Georgians, is compiled by Adriana Davies and covered with historical figures before 1700. Volume two, Georgians and Early Victorians, is compiled by Elaine Gilkerson and focuses on those born between 1660 and 1800. The purpose of the series is to list, for some 5,000 historical figures, all portraits known to be accessible to the public in galleries, institutions, and private collections. The information is based exclusively on the National Portrait Gallery's archives.

NOTICE BOARD

Noticeboard is compiled by Patricia Santinelli and Mila Goldie

Chairs

Dr Harry Dickinson has been appointed to the Richard Lodge chair of history at the University of Edinburgh, which has been vacant since the resignation of Professor Geoffrey Best in 1973. Dr Dickinson, who is at present a reader in the department of history, will take up the appointment on October 1, 1980.

Sean P. F. Hughes has been appointed to the George Harrison Law chair of orthopaedic surgery at the University of Edinburgh with effect from November 1, 1979. He is currently director of the orthopaedic unit, Royal Postgraduate Medical School, consultant orthopaedic surgeon, Hammersmith Hospital, and honorary research fellow, Institute of Orthopaedics, Stanmore, Middlesex.

Dr Michael Anderson presently reader in the department of sociology in Edinburgh, has been appointed to the chair of economic history at the same university. He succeeds Professor S. B. Saul, who has been transferred to the University of York to take up the position of vice-chancellor.

James R. Hurford has been appointed to the chair of general linguistics at the University of Edinburgh from October 1, 1979. He is at present senior lecturer in linguistics at the University of Lancaster.

Professor W. W. Macdonald, professor of entomology, London School of hygiene and tropical medicine, has been appointed to the re-established chair of medical entomology in the Liverpool School of Tropical Medicine in the Faculty of Medicine, University of Liverpool, from April 1, 1980.

Professor G. Nelson, William Julien Contelaud professor of helminthology, University of London, has been appointed to the Walter Myers chair of parasitology in the Liverpool School of Tropical Medicine in the faculty of medicine, University of Liverpool, in succession to Professor W. Peters. He will take up his appointment on January 1, 1980.

Michael Howard Sterling, lecturer in the department of control and engineering at the University of Sheffield, has been appointed to the chair of engineering science at the University of Durham from January 1, 1980.

Grants

Bath

Dr R. J. Holbeche—£16,333 from Pye Telecommunications for the development of area coverage techniques for UHF portable radio telephones. R. A. Daniels, Dr B. A. White and Dr R. T. Lipczynski—£5,210 from the SRC for research into stability studies of a multimachine model of a large power system. Dr R. J. Holbeche—£10,000 from Pye Telecommunications for an investigation into new techniques of time division multiplexing for mobile radio.

Humanities and social sciences—Professor C. T. Sandford—£42,719 from the SSRC for research into compliance costs of VAT in the UK.

Management—Professor C. R. Tomkins —£37,585 from the SSRC for research into operational effectiveness and the use of accounting in a local authority. Dr I. D. Ford, jointly with a colleague at UMIST £30,000 from the SSRC for a study of the marketing and purchasing of industrial products between five European countries. Professor J. L. Mangham—£20,200 from the Manpower Services Commission to design, run and evaluate a programme to train organisation consultants on behalf of the Inter Industrial Training Boards Study Group on Organisation Development.

D. J. Harris—£14,242 from the SSRC for an investigation into inner active corporate planning in the UK Nationalised Fuel Industries.

Materials Science—Dr V. D. Scott—£29,772 from the SRC for development of a correction procedure with improved versatility for quantitative electron probe microanalysis. Professor B. Harris and T. Adam—£16,760 from the Ministry of Defence for environmental fatigue testing of reinforced plastics.

Mathematics—Professor D. E. Edmunds—£26,368 from the Schools Council for a mathematics and industry project.

Physics—£42,099 for the design and construction of equipment for use on submarine cable route surveys; £18,930 for cable route surveys using sidescan sonar on the UK-Spain and UK-Netherlands routes.

Bristol

Anaesthetics—£150,824 from the UGC for building work for the department in the Bristol Royal Infirmary.

Child Health—Professor N. R. Butter —£49,120 from the Bernard Van Leer Foundation for a pilot investigation into parent support in disadvantaged areas.

Pathology—Dr R. B. Taylor—£135,158 from the MRC as a supplementary towards an investigation on interaction of antibodies with cells in control of the immune response.

Organic and Inorganic Chemistry—Professor F. G. A. Stone and Professor L. Maccoll—£133,404 from the SRC towards an investigation on structural studies in inorganic and organic chemistry.

Anatomy—Professor B. T. Pickering—£125,886 from the MRC for an investigation on the endocrine neurone as model for the study of secretion.

School for Advanced Urban Studies—Mr M. J. Wiley—£21,968 from the SSRC toward studies of public supplementation in central local relations.

Physics—Dr A. A. Beckett—£74,805 from the SRC for an investigation of high-resolution scanning microscopy of biological materials.

Mechanical and Civil Engineering—Professor C. Andrew and R. T. Severn —£72,017 from the SRC towards a Magiscan image analysis system.

Dundee

Surgery—Dr P. R. Bakon—£20,034 from the Scottish Home and Health Department to assist his research into the effects of cholestasis on cellular transport and protein binding of bile salts by the liver.

Electrical Engineering—Mr P. Baylis and Mr J. J. Brush—£45,000 from the Ministry of Defence to assist their investigation of the remote sensing of ocean currents.

Community and Occupational Medicine —Dr T. R. Billington—£60,000 from the Scottish Health Education Unit to set up a health behaviour research unit.

Biochemistry—Dr B. A. Haddock—£13,430 from the SRC to purchase equipment in connection with his research into cloning bacterial genes to study the structures and functions of membrane-bound multienzyme complexes.

Dentistry—Professor D. S. Jones—£17,013 from the SRC in connection with his research into noise jet flows.

Political Science—Professor K. Newton —£24,774 from the SSRC to carry out research into local government resource squeeze in Britain.

Birmingham

Physics—Dr J. B. A. England £10,200 from the SRC for modification and updating of one metre scattering chamber for the NSF.

Electronic and electrical engineering—Professor E. D. R. Sharman £19,099 from the Ministry of Defence for feasibility study of IFF ground-wave radar for tracking of ships.

Engineering production—Dr S. K. Bhattacharya £26,000 from BL Cars for machining of high-volume components.

Geriatric medicine and psychology—Professor B. Isaacs and Dr A. Brodhurst £14,774 from the Mental Health Foundation for helping the relatives of mentally ill old people.

Geological sciences—Dr J. W. Lloyd £28,500 from Anglican Water Authority for the research in nitrates in underground waters; Dr J. W. Lloyd £32,000 from Anglican Water Authority for southern chalk hydrogeological investigation.

Industrial metallurgy—Professor D. V. Wilson £16,400 from the SRC for a research into sheet metal forming, and the design and selection of tool materials.

Social medicine—Dr J. A. H. Waterhouse £73,567 from the US Department of Health, Education and Welfare for data collection and analysis of the Oxford Survey of childhood cancers.

Leicester

Astronomy—£20,290 from the SRC for theoretical studies of active galaxies/interpretation of observations of cataclysmic variable stars, under Dr D. J. Raine and Dr A. E. King.

Biochemistry—£32,916 from the SRC for an on-line evaluation of hydrodynamic parameters using a new ultracentrifuge scanning system under Dr J. M. Ghuysen; £19,480 from the MRC for a study of bacterial resistance specified by R plasmids under Professor J. H. Shaw.

Botany—£13,154 from the SRC for the decarboxylation of Malic Acid and its regulation in Cam photosynthesis, under Dr W. Cockburn.

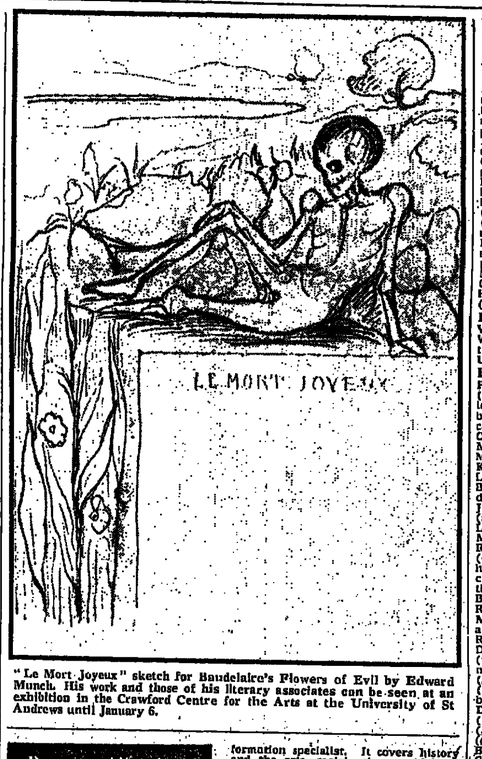
Genetics—£25,198 from the MRC for a study of plasmid controlled iron uptake in Escherichia Coli strains pathogenic for man under Dr P. Williams.

Microbiology—£18,799 from the MRC for a study of inducible excitular antigens of candida species in the serodiagnosis of systematic candidiasis under Dr F. C. Odds.

Physics—£27,300 from the SRC for a study of photoelectron spectroscopy of metal surfaces at Daresbury under Dr C. Norris. £186,359 from the SRC for a study of twin auroral radar facility in conjunction with EISCAT, under Dr T. B. Jones and Dr C. T. Spracker. £13,607 from the SRC for the replacement of the Leicester Innosonde under Dr T. B. Jones. £20,440 from the SRC for studies of the atmospheric waves using EISCAT under Dr T. B. Jones. £104,624 from the SRC for an image processing system for HEAO-2 and EXOSAT Data analysis at Leicester under Professor Pounds. £11,556 from the SRC for an incoming senior visiting fellowship Dr B. K. Agrawal, under Professor Beeby; £16,316 from the SRC for theoretical investigation of electron loss mechanisms in solids under Professor Beeby; £16,030 from the SRC for the microscopic formulation of molecular processes at surfaces under Professor Beeby.

Social Work—£24,770 from the Home Office for social work and the supervising order under Professor Herbert.

Surgery—£21,357 from LAHA (T) for renal transplant research fellowship under Professor Bell.



"Le Mort Joyeux" sketch for Baudelaire's Flowers of Evil by Edward Munch. His work and those of his literary associates can be seen at an exhibition in the Crawford Centre for the Arts at the University of St Andrews until January 6.

Recent publications

"Design Tomorrow's Environment": a selection of new careers literature from the Institution of Municipal Engineers aimed at both the sixth-former and undergraduate explains the responsibilities arising in the profession. This includes planning, designing, building and maintaining works which vary from houses, roads, bridges, harbours and sea defences to pure water supplies and sewage. (Available from the Institution of Municipal Engineers, 43 Great Marlborough Street, London W1V 1DA.)

* * *

Basic information about sources of financial aid for students who wish to undertake post graduate study or research at a Commonwealth university outside their own country is provided in Scholarships Guide for Commonwealth Postgraduate Students 1980-82. The 362-page publication produced by the Association of Commonwealth Universities covers scholarships, fellowships, grants, assistantships and demonstratorships and all subjects of study or research in which there are university facilities included. (Available from ACU, John Foster House, 36 Gordon Square, London WC1H 0PF, £4.95.)

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Nearly 3,000 selected audio-visual materials for degree-level work—500 of which are included for the first time—from 250 distributors in Great Britain are listed in the thoroughly revised and enlarged edition of the British Universities Film Council catalogue Audio-Visual Materials for Higher Education 1979-80. The four part edition of the catalogue is specifically designed to meet the needs of the individual teacher and librarian or information specialist. It covers history and the arts, social sciences, biology, medicine and life sciences, physical sciences and technology. (Available from BUFC, 81 Dean Street, London W1, £6.00 for individual volumes and £19.50 for library set in slip case; different rates apply for members.)

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A new series of audio cassette programmes for management covering executive skills, supervisory skills, behavioural sciences, and training have been produced by Management Games Ltd. Each set consists of either 12 or the half-hour cassettes ranging in price from £50 plus VAT to £60. (Available from MGL, 11 Woburn Street, Ampthill, Bedford MK45 2HP.)

* * *

Microprocessors, the branch of computers with growing applications in science, aerospace, telecommunications, industrial control, a word processing and the military, is now discussed in a series of videotaped lectures and demonstrations from the Center for Advanced Engineering Study (CAES) of the Massachusetts Institute of Technology. This is a self-contained course, especially designed for video instruction (further information available from Kathleen Daly, Room 9-234, Massachusetts Institute of Technology, Cambridge, MA 02139, U.S.A.).

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Sixth formers and undergraduates can test their knowledge of different jobs and areas of further education and through a novel method of career information produced by Mr M. J. Kirton, director of the Occupational Research Centre at Hatfield Polytechnic. Career Information: a Job Knowledge Index published by Heinemann Educational Books covers 65 different occupations each of which is described through a job knowledge index made up of true and false statements.

Forthcoming events

"Education Policy in the Federal Republic of Germany 1969-79" a one-day conference organized by the Department of European Studies and Modern Languages, UMIST, in conjunction with the Association for the Study of German Politics and the Goethe Institute (Manchester) will be held on January 7. Speakers will include Dr A. G. Hearnden, secretary, Standing Conference of University Entrance, London, on "Recent Problems in German secondary education". Fee: £15 with accommodation and £8. Further details from Gunther Kloss, UMIST, PO Box 88, Manchester M60 1QD.

An in-service training programme for psychotherapists, clinical psychologists, psychiatric social workers and counsellors working with women is to start in January at the Women's Therapy Centre, Manor Gardens, London N7 9LA. Weekly courses on January 22 to March 25 and the second from May 20 to July 22 on Tuesdays from 4.30 to 7 pm. The fee is £85 but the course is partly supported by the Equal Opportunities Commission, there will be a number of spaces for women intending to return to work at a reduced fee. Further information from Sue Krzowski, at the centre on Mondays, Tuesdays or Fridays.

Appointments

Universities

Aberdeen

Clinical senior lecturer: Christopher M. Childs (Institute of Environmental and Offshore Medicine). Lecturer on probation: David H. Ott (public law). Temporary lecturer: Anthony J. Nicholls (medicine). Research fellows: George Farmer (child health); Margaret A. Sabiston (developmental biology and surgery); Thomas Cunningham (medicine); Rosalind C. J. Hackett and Professor Clyde C. Smith (religious studies); Drogan Karadjic (forestry); Jacques Magnan (unit for research on addictive drugs); Michael R. Giddings (zoology). Research assistants: David J. Pratt (bio-medical physics and bio-engineering); Colin Murray (computing science); Susan Owens (political economy); Andrew Hall (physiology); Frances O'Boyle (social work).

Birmingham, Aston

Vice-chancellor: Professor Frederick W. Crawford (chairman of the Institute for Plasma Research at Stanford University, California).

Edinburgh

Personal chairs: Donald Leslie Shaw (personal chair of Latin-American studies). Peter Hadland Davis (taxonomic botany); Robert John Donovan (physical chemistry). Senior lecturers: G. H. Cummack (medical radiology); Dr McMillan (oral surgery); Dr Mary Mrs J. Lamb (pathology, temporary); K. G. Reid (clinical surgery); I. A. Loudon (community medicine); R. D. Bagnall and M. W. Miller (conservative dentistry—dental materials science); J. A. Survis (pathology); S. J. Arnott (radiotherapy, temporary).

Lecturers: W. Hillus (agriculture); Miss H. Ogmundsdottir (bacteriology); R. J. Black and D. E. MacMeek (Celtic); R. A. Mims (child and health); G. J. Beckett (clinical chemistry); W. W. Finnie (constitutional and administrative law); T. M. Bray (education). M. Jack and Jack and R. G. Kelly (electrical engineering); Mrs A. J. L. Aguiter, Miss F. Coleman and H. I. Clapham (English language); R. W. Stevenson (English literature); D. J. Howarth (fine art); R. First (fire safety engineering); D. S. Dodgson (forensic medicine); R. J. L. Ion (geriatric medicine); D. C. Russell (medicine); F. B. Ward (microbiology); M. X. Colquhoun and E. Duval (pathology). D. R. Miller (science studies unit). M. Lynch (Scottish history); J. M. Holmwood (sociology); C. G. G. Aitken and A. Hirstwhistle (statistics); J. A. H. H. Critchley (therapeutics and clinical pharmacology); S. Hamilton (accounting and business method, part-time); T. T. Brown and J. H. McClure (anaesthetics); D. P. Mackay (bacteriology); D. W. Garland (criminology); T. C. Waugh (geography); D. J. Field (medicine-rheumatology); T. M. Holmwood (sociology); Miss R. Page (systematic theology); Miss N. Blackwell (therapeutics and clinical pharmacology); C. R. Dobbie (veterinary practice teaching unit). Temporary lecturers: C. D. Armenaden and T. M. O. Lewis (chemical engineering); D. S. Dummer and D. W. Crosthwaite (forensic medicine, part-time); R. B. Wood (legal practice unit, part-time); H. A. Macleod (nursing studies, part-time); J. M. C. N. Finlayson (oral surgery); J. F. G. Sherman (philosophy); L. H. A. Jamieson (sociology); Miss R. M. Gatenby (tropical animal health). Editor: A. J. Aitken (Dictionary of the Older Scottish Language).

Dundee

Vice-Principal: Professor F. Griffiths. Reader: Dr G. A. Codd (biological science). Senior lecturer: Dr B. S. Weekley (anatomy); Miss R. M. Gatenby (modern history); C. G. Le Comber (physics); Dr G. C. Leslie (physiology); Dr D. G. Nicholls (psychiatry).

Oxford

Fellows: lecturer in English literary: Professor John Joseph Scarborough.

Leeds

R. M. Boyle (cardiovascular studies); P. R. Franklin (music); R. Sinclair (ceramics); P. G. Sudarsanam (economic studies). Senior research fellows: R. Gott (education). Research fellows: J. B. Brophy (chemistry); M. Dennis (medieval history); D. W. Hall (plant sciences); M. V. Vitkovitch (physics); B. J. McNulty (physics); M. J. Rees (fuel and energy); V. Rajmohan (biochemistry); S. A. Roberts (computer studies); Alison Mary Smith (plant sciences); R. M. Thomson (computer studies); D. A. Wilson (education). Visiting research fellows: M. Manna (clinical physiology and nutrition); K. Nushin (computer studies).

Surrey

Secretary to the University of Surrey and Clerk to the University Council: L. J. Krell. Visiting professor: Derek A. J. Taylor.

City of Liverpool College of Higher Education

Senior lecturer: Dr E. Tomlinson (mental handicap). Lecturers II: R. A. Webster (English); Ms S. Soul (textiles); Mr J. Furby (sociology); D. Oliver-Jones (psychology/studies in handicap); M. I. Daniels (psychology).

Classified Advertisements Index

Universities

Colaiste na Hollscoile Corcaigh

UNIVERSITY COLLEGE CORK
Department of Geology

Applications are invited for a full-time permanent post as

Assistant Lecturer
or
College Lecturer

in the Department of Geology.

The duties of the post will include the teaching of Structural Geology to Science students and developing courses in Engineering Geology for Engineering and Science students. Experience in other applied fields, particularly Economic Geology would be an advantage.

The salary scales (due for review from 1st March, 1980) are:

College Lecturer: ..,836-£8,141 bar £8,167-£9,772 p.a.

Assistant Lecturer: £5,914-£6,435 p.a.

Increments for special professional experience.

Application forms and further details of the post may be obtained from the undersigned.

Latest date for receipt of applications is FRIDAY, 25 JANUARY, 1980.

M. F. Kelleher, Secretary.

THE UNIVERSITY OF THE SOUTH PACIFIC

Applications are invited for the CENTRE FOR APPLIED STUDIES IN DEVELOPMENT
OUTREACH DEVELOPMENT OFFICER
(three posts) (Post 79/94)

To serve in the new Fabridec, Solomon Islands and Western Samoa. Appointees will liaise with host governments and development agencies on problems of project identification, appraisal and implementation, drawing upon assistance from the various specialist institutes of the University as and when appropriate. Applications are inviting from graduates with a background in development economics, management or appropriate technology. Previous consultancy experience would be an advantage. Appointees will spend sometime at the University's Lauca Campus for familiarisation purposes before taking up field postings.

MEDIA OFFICER
(Post 79/95)

To work with a team of 18 Extension media specialists on the Lauca Campus, assuming personal responsibility for the production of all informational materials required by the Outreach Programme. Applications are invited from persons combining wide professional experience of the media with an interest in developmental problems. The capacity to research, summarise and present technical information at a variety of levels is essential.

Salary scales: F$11,050-F$14,135 pa, F$8,175-F$11,585 (Sterling=F$1.54). The British Government may supplement salaries in range £1,766-£4,662 pa (sterling) (reviewed annually and normally free from tax) plus associated benefits. Family passages; baggage allowance; gratuity; two-year contract; accommodation; appointment grade.

Detailed applications (two copies) with curriculum vitae and naming three referees to be sent direct to the Registrar, USP, PO Box 1168, Suva, Fiji, by 31 January, 1980. Applicants resident in the UK should also send one copy to the Inter-University Council, 36/41 Tottenham Court Road, London W1P 0BX. Further details may be obtained from either address.

THE UNIVERSITY OF NEW ENGLAND
Australia

PROFESSOR OF BOTANY

The University invites applications for the Chair in Botany. The appointee will be Head of the Department for five years in the first instance.

The Department offers courses at undergraduate levels for internal students in the Faculties of Science, Rural Science, Management, and Rural Science, and for internal and external students in the Faculty of Arts. It also offers postgraduate training in the botanical sciences.

The current professorial salary is $A34,119 per annum. The University will pay travel expenses for the appointee and family to Armidale, together with reasonable removal expenses. Other benefits include superannuation (FSSU pattern for building or buying a home. The appointee will be eligible to apply for Study Leave with appropriate travel grants.

Full particulars can be obtained from the Staff Officer, University of New England, Armidale, New South Wales, 2351, Australia, with whom applications, which should include the names and addresses of three referees, close on 31 December 1979, or as soon as possible thereafter. State Position No. 442.

Informal enquiries may be directed in the first instance to the Dean, Faculty of Science, in the University.

Applicants in the United Kingdom, Europe and Australia should also forward an additional copy, by the same date, to the Secretary General, Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF, from whom conditions of appointment can be obtained.

UNIVERSITY OF DUBLIN
Trinity College

UNIVERSITY CHAIR OF BOTANY (17/79)

This Chair will fall vacant on 1st October, 1980, on Professor W. A. Watts, at his own request, transferring to Personal Chair.

Further particulars of the post may be obtained from:

Mr. G. H. H. Giltrap,
Secretary to the College,
West Theatre,
Trinity College,
Dublin 2,

to whom completed applications should be sent preferably by Friday, 25th January, 1980.

Colaiste na Hollscoile Corcaigh

UNIVERSITY COLLEGE CORK
MATHEMATICS

Applications are invited for a full-time permanent post

Assistant Lecturer
or College Lecturer

in the Department of Mathematics.

The salary scales (due for review from March 1, 1980) are:

College Lecturer, £6,836 to £8,141 bar £8,167 to £9,772 p.a.

Assistant Lecturer, £5,914 to £6,435 p.a.

Increments for special professional experience.

Application forms and further details of the post may be obtained from the undersigned.

Latest date for receipt of applications is Friday, January 25, 1980.

M. F. Kelleher, Secretary

UCG Coláiste na hOllscoile Gaillimh

LECTURESHIP in APPLIED GEOPHYSICS

Applications are invited for the above lectureship to be held within the unit of Applied Geophysics at University College, Galway. The post is full-time and statutory.

Salary Scale: £8,539 x (8)-£11,271.

Applicants from any branch of Applied Geophysics will be considered but Industrial and/or Seismic Data Processing experience will be an advantage.

Closing date for receipt of applications 4th February, 1980.

Further information may be obtained from the Registrar, University College, Galway, Ireland.

THE FLINDERS UNIVERSITY OF SOUTH AUSTRALIA
SCHOOL OF MATHEMATICAL SCIENCES

LECTURER IN MATHEMATICS
(Computing Science)

Applications are invited from suitably qualified persons for appointment to the above-mentioned position. Applicants should be specialists in Computing Science preferably with special interests in Programming Languages, Operating Systems or Artificial Intelligence.

Salary scale: $A16,291 to $A21,401. An appointment will not be made above the sixth level of the salary scale; viz. $A19,941. Superannuation is on the FSSU pattern.

Further information about the position, including conditions of appointment and details required of applicants, may be obtained from The Registrar, The Flinders University of South Australia, Bedford Park, South Australia 5042, or from the Association of Commonwealth Universities (Appointments), 36 Gordon Square, London WC1H 0PF.

Applications should be lodged, in duplicate, by January 15, 1980.

Cranfield School of Management

LECTURER/SENIOR LECTURER IN OPERATIONS MANAGEMENT

This appointment arises from the expansion and development of Operations Management within the School which is one of the leading postgraduate business schools in Europe. The School's main activities comprise a large part-time MBA Programme and an extensive Continuing Studies Programme for experienced managers. The prime requirement for this post will be an ability to maintain credibility in a very demanding teaching environment.

A full-time visiting appointment for a minimum of twelve months could be considered.

Salary in the range: £4,339-£8,892 or £6,028-£10,775 (under review).

Assistance will be given with relocation expenses and, if necessary, housing on the campus.

Further particulars may be obtained from the Employment Office, (ref. 1.432/C), Cranfield Institute of Technology, Cranfield, MK43 0AL. Informal enquiries may be addressed to Colin New, Professor of Operations Management (Telephone number Bedford 751122).

THE UNIVERSITY OF THE SOUTH PACIFIC

Applications are invited for the post of:

LECTURER IN BIOLOGY
(Post 79/96)

Candidates will be from ecologists or plant biology, but preference may be given to those with interests in a field-orientated area of physiology, such as: plant mineral nutrition or physiological ecology. A PhD and teaching experience are required.

Salary scale: F$7,175-F$11,085 (as at 1st sterling=F$1.54). The British Government may supplement salary in range £1,766-£4,662 pa (sterling) (reviewed annually and normally free of tax) plus associated benefits. Family passages; baggage allowance; gratuity; three-year contract; accommodation; appointment grade.

Detailed applications (two copies) with curriculum vitae and naming three referees to be sent direct to the Registrar, USP, PO Box 1168, Suva, Fiji, by 31 January, 1980. Applicants resident in the UK should also send one copy to the Inter-University Council, 36/41 Tottenham Court Road, London W1P 0BX. Further details may be obtained from either address.

CANADA

UNIVERSITY OF ALBERTA
Edmonton, Canada T6G 2E5

DEPARTMENT OF GERMANIC LANGUAGES

Invites inquiries regarding programs with instructional rank leading to M.A. and Ph.D. in literary or philological specializations.

DURHAM

THE UNIVERSITY
TEMPORARY LECTURESHIP IN THEOLOGY

Applications are invited for the post of Temporary Lecturer in Theology for a period of two years from 1st October, 1980. The person appointed will be expected to teach in the field of New Testament studies. The initial salary will be at a point on the scale £4,339 to £6,092 per annum, together with normal superannuation arrangements.

Applications should be received by 28 January, 1980, and should be addressed to the Registrar, University Office, Durham DH1 3HP, from whom further details may be obtained if required.

EDINBURGH

THE UNIVERSITY
DEPARTMENT OF THEOLOGY
TWO TEMPORARY LECTURESHIPS

Applications are invited for two temporary lecturerships in Theology, one in the field of Christian Ethics and the other in Old Testament Studies, for a period of two years from 1st October, 1980. The successful candidates will be expected to teach in the field of New Testament Studies. The initial salary will be at a point on the scale £4,339 to £6,092 per annum, together with normal superannuation arrangements.

Further details of the appointments may be obtained from the undersigned, to whom applications should be addressed, by post or hand, not later than 31st January, 1980, quoting reference number 1/1/80.

Colaiste na Hollscoile Corcaigh

UNIVERSITY COLLEGE CORK
Department of Education

Applications are invited for up to three posts of

Assistant Lecturer
or College Lecturer

in the Department of Education. An interest in one or more of the areas of Educational Technology, General Methods, Curriculum and Educational Evaluation will be of particular relevance.

The salary scales (due for review from 1st March, 1980) are:

College Lecturer: £6,836-£8,141 bar £8,167-£9,772 p.a.

Assistant Lecturer: £5,914-£6,435 p.a.

Increments for special professional experience.

Application forms and further details of the posts may be obtained from the undersigned.

Latest date for receipt of applications is FRIDAY, 18 JANUARY, 1979.

M. F. Kelleher, Secretary.

EDINBURGH

THE UNIVERSITY
DEPARTMENT OF ZOOLOGY
TWO TEMPORARY LECTURESHIPS

Applications are invited for two temporary lecturerships in the Department of Zoology for a period of two years from 1st October, 1980. The successful candidates will be expected to teach in the field of Vertebrate Biology and to participate in the training of postgraduate students.

Salaries will be on the scale £4,339 to £6,092 per annum, together with superannuation arrangements, in the grade of the lower of the two scales.

The appointees will be expected to take up the posts on 1st October, 1980.

Further details of the appointments may be obtained from the undersigned, to whom applications should be addressed, by post or hand, not later than 31st January, 1980, quoting reference number 1/1/80.

AUSTRALIA

Applications are invited for the following posts, for which applications close on the dates shown. SALARIES (unless otherwise stated) are as follows: Professor $A34,119 - Senior Lecturer $A21,401-$A22,477; Lecturer $A16,291-$A21,401; Tutor $A11,570-$A13,533. Further details, conditions of appointment for each post and application procedure may be obtained from the Association of Commonwealth Universities (Appts.), 36 Gordon Square, London, WC1H 0PF.

La Trobe University
Melbourne

LECTURERS—
DEPARTMENT OF LEGAL STUDIES
(Legal Science)

Applications are sought for tenurable appointments.

The Department forms part of the School of Law which became vacant following the appointment of Professor Peter E. Nygh to the Family Court of Australia.

The University is seeking a scholar with an excellent record in providing leadership in teaching and research. The School of Law offers a full programme leading to the B.A., LL.B. and Bachelor of Legal Studies degrees, both of which are accredited for purposes of admission to legal practice. In addition to emphasis upon professional legal subjects the Law School encourages an interdisciplinary approach to legal studies, and an interest in law reform. The School of Law expects to develop a postgraduate programme in the new year.

The other Chair of Law is held by Professor J. R. Paden, whose field of interest is in Commercial Law.

The University reserves the right to fill any position by invitation.

11 January, 1980.

LECTURER IN PLANT AND SOIL SCIENCES
(Re-advertised)
School of Agriculture

A vacancy exists for a fixed term lecturer (three years) in the Plant and Soil Sciences group. The teaching of the group covers a wide range of subjects, including plant and crop physiology, plant nutrition, soil chemistry and soil physics. The appointee is to be made to strengthen the teaching in areas of the existing curriculum, and applications are requested from people with interests in either Plant Protection or Soil Management. An appointee in plant protection would be required to develop a course which highlights the principles of the control of insects, plant pathogens and weeds. Applicants may be specialists in any of these areas. An appointee in soil management would be required to make a contribution to the teaching of soil science in the field of soil manipulation with the aim of regulating tilling, erosion and structural deterioration.

11 January, 1980.

Macquarie University
Sydney

CHAIR OF LAW

School of Law

Applications are invited for appointment to a Chair of Law in the School of Law which became vacant following the appointment of Professor Peter E. Nygh to the Family Court of Australia.

The University is seeking a scholar with an excellent record in providing leadership in teaching and research. The School of Law offers a full programme leading to the B.A., LL.B. and Bachelor of Legal Studies degrees, both of which are accredited for purposes of admission to legal practice. In addition to emphasis upon professional legal subjects the Law School encourages an interdisciplinary approach to legal studies, and an interest in law reform. The School of Law expects to develop a postgraduate programme in the new year.

The other Chair of Law is held by Professor J. R. Paden, whose field of interest is in Commercial Law.

The University reserves the right to fill any position by invitation.

11 January, 1980.

SENIOR LECTURER/ LECTURER IN PSYCHOLOGY

School of Behavioural Sciences

Applications are invited for appointment to the area of Developmental Psychology, with preference for a person with a broad interest in lifespan development (cognitive, affective or social), developmental psychopathology, overlaps between clinical and developmental psychology or between developmental studies, social policy and law. Research skills and teaching skills are both of importance. The position is tenable not before 1 July, 1980.

31 January, 1980.

LECTURER IN CHINESE

School of Modern Languages

Preference will be given to candidates who can demonstrate a native speaker's level of fluency in Standard Modern Chinese (*Putonghua*) and wine hold the degree of Doctor of Philosophy or its equivalent in some field of Chinese Language and/or Literature.

Duties will include undergraduate teaching of all aspects of Standard Modern Spoken Chinese (*Putonghua*) modern and contemporary Chinese writings, premodern vernacular literature (*Guyen hua* texts) and writings in Literary Chinese (*Wen-yan* texts). Instruction will place equal stress on both communication (conversation and translation) composition and reading skills, with a view to training students to a high degree of general language competence.

11 January, 1980.

Monash University

CHAIR OF ENGLISH

Department of English

Applications are invited for appointment to a Chair of Law in the School of Law which became vacant following the appointment of Professor Peter E. Nygh to the Family Court of Australia.

The University is seeking a scholar with an excellent record in providing leadership in teaching and research. The School of Law offers a full programme leading to the B.A., LL.B. and Bachelor of Legal Studies degrees, both of which are accredited for purposes of admission to legal practice. In addition to emphasis upon professional legal subjects the Law School encourages an interdisciplinary approach to legal studies, and an interest in law reform. The School of Law expects to develop a postgraduate programme in the new year.

The other Chair of Law is held by Professor J. R. Paden, whose field of interest is in Commercial Law.

The University reserves the right to fill any position by invitation.

11 January, 1980.

The Australian National University

LECTURER IN JAPANESE LANGUAGE & LITERATURE

Faculty of Asian Studies
Department of Japanese

The Department seeks to appoint a person specialising in modern or early modern Japanese literature. Duties of the position will include teaching a course in modern literature in translation as well as teaching and directing the research of advanced students. The person appointed will also be expected to participate in the Department's language teaching programmes. The successful applicant will have a Ph.D. or will have substantially completed the requirements for the award of a doctorate, and will be expected to commence duty in the second half of 1980.

1 March, 1980.

Department of Biochemistry

TUTOR IN BIOCHEMISTRY

Applicants should have a PhD degree in biochemistry with research interests in the field of metabolic biochemistry, or in intendent enzymology.

The successful applicant will be required to assist in preparations, supervision and assessment of practical classes in second and third year units in biochemistry, to participate in the training programmes for Honours and Higher Degree Students and to contribute to research by collaboration with a senior member of academic staff in one of the following areas. Carbohydrate metabolism in liver or neoplastic tissue; Mechanisms of macrophage and lymphocyte transformations; Hydrogen metabolism in nitrogen-fixing photosynthetic microorganisms.

11 January, 1980.

Appointment as Lecturer is for four years in the first instance, with the possibility of reappointment, after review, to age 65. Tutors are appointed on a yearly basis with the first appointment being to 31 December, 1980.

Reasonable appointment expenses are allowed. Travel expenses for Tutors, however, are paid only if they are appointed from within Australia or New Zealand. Superannuation benefits are available for applicants who are eligible to contribute. Assistance in finding accommodation is provided for an appointee from outside Canberra. The University reserves the right not to make an appointment or to make an appointment by invitation at any time.

BATH
THE UNIVERSITY

Applications are invited for the post of LECTURER in ECONOMICS, preferably with a special interest in modern forecasting domain methods including on-line system identification studies. The successful candidate will be expected to form a research group applying modern control methods to large engineering systems and will involve teaching undergraduate courses in economics. Experience with realistic applications in control, multivariate operating methods for nonlinearities would be a considerable advantage.

Salary in the range £4,339 to £8,964.

Further particulars and application forms available from the Personnel Officer, University of Bath, Bath BA2 7AY, quoting reference number 79/295.

Closing date for applications: 18th January, 1980.

BIRMINGHAM
THE UNIVERSITY
HEALTH SERVICE MANAGEMENT CENTRE

LECTURER/SENIOR LECTURER IN FINANCIAL MANAGEMENT

The Centre, at the invitation of the Department of Health and Social Security and National Health Service authorities has begun to play a major role in teaching and research aimed at developing the effectiveness of financial management in the NHS. In the exploratory stage the Centre has undertaken postgraduate teaching and provided a variety of seminars for senior NHS finance specialists and members of other health professions, as well as undertaken complementary research investigations.

We are now looking for someone who can provide academic leadership for this work, as a member of a team with complementary skills, and can help to shape its future development with the NHS and DHSS. The post is tenured and carries associate status in the Department of Accounting.

Candidates should have a sound knowledge of modern accounting theory and practice in relation to the public sector, and the capacity to quote this to key issues in financial management of the NHS. The appointment will be made at the Lecturer or Senior Lecturer grade depending on qualifications and experience, the responsibilities being adjusted accordingly. Salary scales (under review): £4,339-£6,092 (Lecturer); £6,160 to £10,775 (senior lecturer).

For further information and application form write to Miss D. B. Howes, Resource Registry, University of Birmingham, P.O. Box 363, Birmingham B15 2TT, to whom applications should be sent to arrive by 22 January, 1980.

EDINBURGH
THE UNIVERSITY

FACULTY OF DIVINITY
LECTURESHIP IN CHRISTIAN ETHICS AND ECCLESIAL THEOLOGY

Applications are invited for the above appointment, which will be vacant from 1st October, 1980. The successful candidate will be expected to teach in the field of Ecclesial Theology.

The salary will be on the scale £4,339 to £6,092 per annum, together with normal superannuation arrangements.

Further particulars may be obtained from the Secretary to the University, to whom applications should be sent, closing date for application 7th January, 1980. Please quote reference 108F.

EDINBURGH
THE UNIVERSITY
DEPARTMENT OF PHYSICAL EDUCATION DIRECTOR

Applications are invited for the post of Director of Physical Education, which will fall vacant on the retirement of Mr. L. B. Liddell.

The salary will be on the Administrative Staff Grade IV scale, currently £10,504, under review. The closing date for applications is January, 31st 1980.

Further particulars may be obtained from: The Secretary to the University, Old College, South Bridge, Edinburgh EH8 9YL.

Please quote reference number: 12 79.

LIVERPOOL
THE UNIVERSITY
INSTITUTE OF EXTENSION STUDIES

Applications are invited for the post of LECTURER in INDUSTRIAL STUDIES in the Institute of Extension Studies, from 1st April, 1980, or as soon as possible thereafter.

Candidates should hold a good honours degree and have a special knowledge of law and/or Social Sciences. Duties include the preparation and development of a programme of courses for trade unionists and the general public in Merseyside and other parts of North West England.

The initial salary will be on the scale £4,339 to £6,092 per annum.

Applications, together with the names of two referees, should be received not later than 31st January, 1980, at the Registrar, The University, P.O. Box 147, Liverpool L69 3BX, from whom further particulars may be obtained. Quote ref. HV-971 THES.

All advertisements are subject to the conditions of acceptance of Times Newspapers Ltd, copies of which are available on request.

LANCASTER
THE UNIVERSITY OF LECTURESHIPS IN LAW

Applications are invited for two Lectureships in Law tenable from October 1, 1980, or such other date as may be arranged.

These are newly established posts arising from the establishment in the Department of Law of a new LL.B. degree scheme. There will be opportunities to participate in the development of the Department's new Degree Scheme, and in particular the establishment of second and third year courses.

There is no restriction on the field of interest of applicants for either post, but the successful applicants will be expected to be able to offer teaching in at least one of the core subjects. A willingness to teach Criminal Law would be a particular advantage for one post.

Salary according to age and experience on the scale £4,339 to £6,092 p.a., under review. For one of the posts the initial salary will be in the range of £4,339 to £5,300 p.a.

Further particulars may be obtained (quoting reference 1/170) Colleague Development Officer, University House, Lancaster (Tel. 3798), to whom applications (six copies), together with the names and addresses of three referees, should be sent by January 31, 1980.

LONDON
THE UNIVERSITY

CHAIR OF THE HISTORY OF ART AT BIRKBECK COLLEGE

The Senate invites applications for the above Chair.

Short lists of candidates should be submitted to the Academic Registrar, (THES), University of London, Malet Street, London WC1E 7HU, from whom further particulars may be obtained.

Closing date: January 25, 1980.

LONDON
THE UNIVERSITY

CHAIR OF EDUCATION WITH SPECIAL REFERENCE TO CURRICULUM STUDIES
TOWARDS THE INSTITUTE OF EDUCATION

The Senate invites applications for the above Chair. The person appointed will be seconded by the Institute of Education to the Schools Council on a part-time basis.

Applications (10 copies) should be submitted to the Academic Registrar (THES), University of London, Malet Street, London WC1E 7HU, from whom further particulars should first be obtained.

Closing date January 28, 1980.

LONDON
THE CITY UNIVERSITY
BUSINESS SCHOOL

TEMPORARY LECTURESHIP IN BUSINESS SYSTEMS ANALYSIS

Applications are invited from Honours graduates (male or female) for a temporary lectureship in Business Systems Analysis, tenable for three years as the first instance. It is essential for candidates to have had practical experience in business as well as academic training. Preference will be considered to candidates who have had experience in teaching, and research and consultancy in these fields is desirable.

The City University Business School provides an MSc course in Business Systems Analysis and Design, a Postgraduate Diploma Course in Systems Analysis and related courses in Business Administration.

Salary scale: £4,339 to £6,092 (under review) on the Lecturer Grade.

Further particulars and application forms may be obtained from the Personnel Officer, City University, Northampton Square, London EC1V 0HB (quoting reference 79/80).

Please quote ref. CUBS/205/THES. Closing date: 31st January, 1980.

LONDON
THE UNIVERSITY
UNIVERSITY COLLEGE LONDON
DEPARTMENT OF HISTORY

Applications are invited for the post of LECTURER in ANCIENT HISTORY from 1 October, 1980, to assist in the teaching of Greek and Roman History. Other things being equal, preference will be given to a candidate with interests in Greek History.

Salary scale: £4,339 to £6,092 plus £740 London allowance. U.S.S. Appointment will be at a point in the range of £4,339 to £6,106 plus £740 London allowance.

Applications, giving the names of two referees, to Assistant Secretary (Personnel), University College London (WC1E 6BT), from whom further particulars may be obtained. Applications close 18th January, 1980.

SALFORD
THE UNIVERSITY
COMPUTING LABORATORY
SENIOR COMPUTING (MICROPROCESSORS)

The University Computing Microprocessor Laboratory provides a service to the University research community in the use of microprocessors. The post will involve liaison with and development on a Centre basis of microprocessor based systems and supported by the University staff.

Familiarity with microprocessor architecture, power, a broad range is desirable. Ability to make presentations with ease and junior staff essential.

The salary scale £7,321-£9,922 p.a. (under review).

Further particulars and application forms may be obtained from the University Secretary, The University of Salford, Salford M5 4WT (quoting reference Computing/Lecturer), to whom completed application forms should be returned by 11th January, 1980, quoting reference number: Computing/Lecturer.

NEWCASTLE UPON TYNE
THE UNIVERSITY
DEPARTMENT OF AGRICULTURAL MARKETING

Applications are invited for appointment to a LECTURESHIP (tenable and 30th September 1981) in the above Division (tenable from a date to be arranged) opportunity for three years subject to annual renewal. Commencement in range £3,775 to £4,335 a year.

Particulars from the Registrar and Secretary, The University, Newcastle NE1 7RU, 33M, to whom applications (7 copies) should be sent by 4th January 1980.

Quote ref: 8372/DI.

ST. ANDREWS
THE UNIVERSITY
RESEARCH SCHOLARSHIPS

Applications are invited for a limited number of research scholarships (£1,625 per year) and for scholarships financed by external bodies (Science Research Council) to commence 1st October, 1980, by postgraduates in the Faculties of Arts, Science and Divinity.

Further particulars may be obtained from the Secretary of The University, College Pitu, St. Andrews, with whom applications should be lodged not later than 31st January, 1980.

Fellowships and Studentships

UNIVERSITY OF OXFORD
BRASENOSE COLLEGE

Platnauer Junior Research Fellowship

The College proposes to elect a Platnauer Junior Research Fellow (male or female) in the Natural Sciences or Mathematics.

The tenure will be for three years from 1 October, 1980, with the possibility of renewal for a further three years. The stipend of a Junior Research Fellow is at present £3,600 per annum and is subject to periodical review. Other benefits include free accommodation, or an allowance in lieu, and a grant for approved research expenses, which may include travel.

There will be no examination. Election will be made after interview.

Candidates must, within the seven years ending 1 October, 1980, have either qualified for the degree of B.A. at Oxford or obtained an equivalent qualification elsewhere.

Applications accompanied by a curriculum vitae and the names of three referees should reach the Principal of Brasenose College, from whom further information may be obtained, not later than 31 January, 1980.

JAPAN FOUNDATION ENDOWMENT COMMITTEE

RESEARCH STUDENTSHIPS

The Committee invites applications from graduate or undergraduate students in the social sciences and humanities, whose research requires a knowledge of the Japanese language, and who are also seeking a studentship from the DES or SSRC in 1980 or accepts they need to further their knowledge of the language and to enable them to do so the Committee offers supplementary awards to the DES/SSRC studentships. Supplementary awards are tenable at postgrad U.K. universities will be made on terms applying to DES/SSRC awards.

Further particulars and application forms are obtainable from the Academic Secretary, the University, Sheffield S10 2TN, to whom completed application forms should be sent by 11th January, 1980. Quote ref: R 395/DI.

St. Hugh's College Oxford

BRITISH PETROLEUM JUNIOR RESEARCH FELLOWSHIP IN ENZYME STUDIES

The college invites applications for a Junior Research Fellowship in Enzyme Studies, tenable for a period of three years from October 1st, 1980. The Fellow will be expected to carry out research in the field of enzyme biochemistry and chemistry; other things being equal, preference will be given to candidates intending to work on mono-oxygenases.

Further particulars may be obtained from the Principal to whom applications should be submitted by January 30th, 1980.

SHEFFIELD
THE UNIVERSITY
DIVISION OF ECONOMIC STUDIES

Applications are invited from men and women for the Dobbing Knox RESEARCH FELLOWSHIP in ECONOMICS in the above Division tenable from a date to be arranged opportunity for three years subject to annual renewal. Commencement in range £3,775 to £4,335 a year.

Particulars from the Registrar and Secretary, The University, Sheffield S10 2TN, to whom applications (7 copies) should be sent by 4th January 1980.

Quote ref: 8372/DI.

CEGB/SHEFFIELD UNIVERSITY
A SENIOR RESEARCH FELLOWSHIP AND RESEARCH STUDENTSHIPS

The Mechanical Engineering Department of the University and the central Electricity Generating Board have established with the Institute of Marine Studies a research centre based in the Department of Mechanical Engineering.

This work will be commissioned by other nations and national electrical organisations and by the International Electrical Institutes.

(1) A Senior Research Fellow is to be appointed for an initial period of three years (possible extension to five years) to carry out research projects of superior research potential and quality, and offered by others, which are already available and may be expected to be established. Salary range £7,175 to £9,670 (Grade 1/2) (as at 1/10/79).

(2) Research studentships for higher degrees in the field of vibration, noise and rotating machinery, creep, ductility and fatigue are also required.

Applications from engineering graduates (or equivalent) for the Senior Fellowship, research students (to be made available to suitably qualified candidates in engineering, mathematics, science, physics and chemistry) should be addressed to Mrs and women.

Further details and proposals to Professor Mechanical Engineering, The University, Sheffield S10 2TN. Applications to the University, Sheffield S10 2TN, as soon as possible. Quote reference 83/9. DI.

DUNDEE
THE UNIVERSITY
DEPARTMENT OF MATHEMATICS
RESEARCH FELLOWSHIPS

Applications are invited for postdoctoral research fellowships (male or female) in Pure Mathematics, Applied Mathematics and Mathematical Physics. Applications in statistics will be considered if they are not duplicated in other departments. The appointments will start as soon as possible and second year will be possible for two years in the first instance, with a possibility of a third year.

Initial salary up to £4,625 per annum, under review, on the DES or SSRC scale (1979 or on continuation of FSSU.

For further information, comprising details of age, qualifications and experience, and a curriculum vitae, referees and closing date, write to Dr. Jones, Department of Mathematics, Dundee DD1 4HN from whom further particulars can be obtained.

Fellowships and Studentships continued

LEEDS
THE UNIVERSITY
DEPARTMENT OF ORGANIC CHEMISTRY
POSTDOCTORAL RESEARCH FELLOW

Applications are invited for the above temporary post of SRC RESEARCH FELLOW in the above Department. The post is supported by the S.R.C. with the object of investigating aspects of reactivity in pericyclic reactions, in heterocyclic systems. Dr. J. Jones. Candidates should hold or be expected shortly a Ph.D. degree and be experienced experimentalists with experience in organic synthetic methods, preferably organic chemistry. The appointment commencing 1st January, 1980 or as soon as possible thereafter, will be for a fixed term period of up to two years.

Salary at an appropriate point on the IA scale for Research and Analogous Staff (£4,333 to £6,968) under review from 1st October 1980.

Preliminary enquiries may be made to Dr. J. Jones, Department of Organic Chemistry (Tel. 0532 31751 ext. 6036).

Application forms and further particulars may be obtained from the Registrar, The University, Leeds LS2 9JT, quoting reference number 25/157/DO. Applications should be submitted as soon as possible.

MANCHESTER
THE UNIVERSITY
POST-DOCTORAL RESEARCH FELLOW
CARBON-13 N.M.R. DATA BASE AND STRUCTURE CORRELATION

Applications are invited for the above post-doctoral fellowship to assist in the development of new methods of correlating structure and carbon-13 n.m.r. spectra. The post will be based jointly in the Chemistry Department of the University of Manchester (with Dr. G. S. Mills) and partly at the S.R.C. Dorsetgate Laboratory (with M. Elder). Applicants with experience and strong interests in n.m.r. spectroscopy and computing will be particularly welcome.

Salary within the range £4,533-£6,489. Superannuation.

Particulars and application forms (returnable by January 11th, 1980) from the Registrar, The University, Manchester M13 9PL. Quote ref: 249/79/THES.

EDINBURGH
UNIVERSITY OF EDINBURGH
LEVERHULME RESEARCH FELLOWSHIP IN ENGLISH LITERATURE

Applications are invited for a RESEARCH FELLOWSHIP from 1st October, 1980, for an initial period of two years in the post-medieval and early modern period.

Salary on Range 1A (currently under revision) from £4,333 per annum, with superannuation, and certain expenses.

Further particulars from the Secretary to the University, Old College, Edinburgh EH8 9YL, to whom applications (two copies) should be sent by 24 March, 1980. Please quote Reference 50/71.

Polytechnics

Ulster Polytechnic

Faculty of Arts

LECTURER II—GRAPHIC DESIGN

The successful candidate will have wide experience in the field of graphic design with an emphasis on typographic design, and will be expected to give a strong lead in this area through general studio teaching and participation in tutorials, seminars and critiques.

Applicants should hold one of the following qualifications:

A Diploma in Design of the Royal College of Art.
The Diploma in Art and Design.
B.A. (Hons.) in Art and Design.
National Diploma in Design or an appropriate qualification in Typographic Design.

It is desirable that applicants should have experience in designing for industry and/or in teaching in a college recognised for the award of the B.A. (Hons.) Degree in Art and Design.

Faculty of Business Administration

PRINCIPAL LECTURER OR SENIOR LECTURER IN TOURISM

A vacancy exists for a person to teach Tourism within the school, to initiate and carry out research within the area and to help other staff in the development of the subject.

Candidates should preferably have a postgraduate qualification in Tourism. Industrial and/or teaching experience at Degree level will be expected.

PRINCIPAL LECTURER OR SENIOR LECTURER IN CATERING MANAGEMENT

A vacancy exists for a person to teach Catering Management on existing Degree and Diploma courses and to help a team of existing staff in the development of the subject.

Candidates should have a Degree and/or professional qualifications. Recent experience in any sector of the catering industry will be an advantage. A willingness to research within the area is essential.

LECTURER II/SENIOR LECTURER IN ORGANIZATION STUDIES

Applications are invited for the above post. The person appointed will be required to:

(a) teach Organization Studies and related subjects to degree, professional and other courses within the School and as required throughout the polytechnic;
(b) take an active part in the research and consultancy activities of the Area of Organization and Policy Studies.

Candidates for the post should have appropriate academic qualifications and preferably some experience in industry. Experience of research, consultancy and/or previous teaching would prove an additional advantage.

Faculty of Technology

SENIOR LECTURER OR LECTURER II IN NAVAL ARCHITECTURE/SHIPBUILDING

Applications are invited from graduates in Naval Architecture/Shipbuilding for the above post in the School of Maritime Studies. Other qualifications would be considered if supported by relevant experience in the shipbuilding or a related industry.

Salary Scales (under review)

Principal Lecturer	£7,680-£8,523/£8,639
Senior Lecturer	£5,559-£7,701/£8,253 + £6 per month supplement
Lecturer II	£4,470-£7,149 + £5 per month supplement

The Polytechnic is a direct grant institution with an independent Board of Governors. It opened in 1971 and has a student population of some 7,500. It has extensive new purpose-built accommodation, including 750 residential places on the 114-acre campus overlooking the sea at Jordanstown adjacent and close residential area. There is a scheme of assistance with removal.

Further particulars and application forms which must be returned by January 14, may be obtained by telephoning (0231) 83181 ext. 2243 or by writing to: The Registrar (Staff), Ulster Polytechnic, Shore Road, NEWTOWNABBEY, Co. Antrim BT37 0QB.

Leeds POLYTECHNIC

Applications are invited for the following posts:—

School of Law

LECTURER II IN LAW

A good UK Honours degree in law is required with the ability to teach in at least two of the following areas: Company Law; Taxation; Employment Law; Litigation; Accounts; Administrative Law. Professional qualifications would be an advantage.

School of International Studies

LECTURER I IN SECRETARIAL STUDIES

To teach Office Practice, Shorthand (Pitman New Era and 2000) and Typewriting to full-time students on Polytechnic Diploma and Certificate courses. Knowledge of a foreign language an advantage but not essential.

Salary Scale:
Lecturer I: £3,480-£5,988
Lecturer II: £4,470-£7,149 (+ £6 per month)

Details from:
The Services Officer, Leeds Polytechnic, Calverley Street, Leeds LS1 3HE. Tel: 0532 462355.
Closing Date: 31 December, 1979. Please enclose s.a.e.

The POLYTECHNIC WOLVERHAMPTON

Secretary and Clerk to the Governing Council

With the retirement of the present occupant, this key post will become vacant on 1 April 1980.
Closing date for applications 14 January 1980.
Salary currently: £10,074-£10,782 (subject to review).
Details of appointment with application form from:
The Director, The Polytechnic,
WOLVERHAMPTON WV1 1LY. Tel: 0902-27371.

OXFORD POLYTECHNIC
Department of Biology
Temporary Lecturer II or Senior Lecturer in Histology

Applications are invited from suitably qualified candidates for the post of temporary Lecturer II or Senior Lecturer in Histology. This appointment will be for one year only from either May or September, 1980. The successful candidate will be expected to teach Histology and some general aspects of Biology to Honours Degree and higher technician courses.
Salaries:
Senior Lecturer £6,927-£7,701 (bar)-£8,253 plus supplement; Lecturer II £4,470-£7,149 plus supplement (transfer from Lecturer II to Senior Lecturer is subject to efficiency requirements, automatic); all subject to comparability review.
Applications, including a curriculum vitae and the names of three referees, should be sent to the Head of the Department of Biology, Oxford Polytechnic, Oxford, OX3 0BP, by 1 February, 1980, from whom further particulars and application forms may be obtained.

Sheffield City Polytechnic
Department of Applied Social Studies
RESEARCH ASSOCIATE
Shiftwork and Women

Applications are invited for the above post on a project funded by the European Foundation for the Improvement of Living and Working Conditions. The successful applicant will be responsible for collaborating with the Project Supervisor in the setting up and administration of the Project. The main purpose of the research is to investigate, through structured but open ended interviews, the relationship between the work and non-work roles of women shiftworkers. Experience in research in important and candidates will be expected to have a degree in one of the Social Sciences. The Project is a one year project starting in January 1980.

Salary 26,800 per annum.

Application forms are available from the Personnel Officer (Department 19/THES), Sheffield City Polytechnic, Halfords House, Pitsmoor Square, Sheffield S1 2BB, or by telephoning 0742 20911 ext. 287. Completed forms should be returned by 31.12.79.

PLYMOUTH POLYTECHNIC
LEARNING RESOURCES CENTRE
SENIOR AUDIO/VISUAL ASSISTANT
Salary: £3,555-£4,533

Required to administer the rapidly expanding collection of audio-visual materials and to assist in developing appropriate services to meet new academic needs.

Applicants should be qualified librarians with relevant experience/qualifications.

Application forms (to be returned by Friday, 4th January, 1980 despite earlier notice) from the Personnel Officer, Plymouth Polytechnic, Drake Circus, Plymouth PL4 8AA.
PLYMOUTH POLYTECHNIC is an Equal Opportunity Employer.

LONDON
THE POLYTECHNIC OF NORTH LONDON
FACULTY OF ECONOMIC AND ADMINISTRATIVE STUDIES
DEPARTMENT OF BUSINESS STUDIES
LECTURER II IN BUSINESS STUDIES

Applicants should hold a good honours degree in a relevant subject, preferably with a higher degree/qualification in Business Studies (such as a M.B.A. or D.M.S.), teaching experience and/or industrial/commercial experience.

The successful candidate will be expected to participate in the teaching of Business Studies and other areas of Business Studies (in particular Business Finance) in the broad based framework of a multi-disciplinary Department.

Salary Scale: £4,470 to £6,149 plus supplement of £6 per month, subject to review. Superannuation. Allowances.

(Start at the top of the Lecturer Grade II Scale on incremental point 1 if appropriate. Lecturer Scale subject to satisfactory efficiency assessment.)

Application forms and further details can be obtained from the Personnel Officer, The Polytechnic of North London, Holloway Road, London N7 8DB. Telephone: 01-607 2789 (24 hours a day). Please quote reference of the appropriate post.

BRIGHTON
THE POLYTECHNIC
FACULTY OF ART AND DEPARTMENT OF FINE ART
PART-TIME LECTURER II IN ETCHING
(0.5 FTE for three-year contract)
£3,470 to £7,149 per annum pro rata

The person appointed will be a practising artist, who uses etching as an important aspect of his/her work. High technical competence is required. Candidates will normally be expected to have a higher Degree or its equivalent.

Further details and application forms from the Personnel Officer, Brighton Polytechnic, Moulsecoomb, Brighton BN2 4AT. Tel. Brighton 693655 ext. 2570. Closing date 4 January, 1980.

BRISTOL
THE POLYTECHNIC
DEPARTMENT OF SURVEYING
LECTURER II/SENIOR LECTURER IN ESTATE MANAGEMENT—Ref. 185

Applications are invited from persons who intend to teach on and assist in the further development of courses in Valuation and Estate Management at both diploma and degree levels.

The person appointed will join other staff who are examining relationships between financial concepts of land valuation and the present and possible future practice of professional life or also will be expected to take a suitable interest in an aspect of the management of land and property, as well as offering to teach subjects in Estate Management subject matter.

Preference will be given to graduate applicants, but possession of an appropriate professional qualification and a willingness to under research is essential.

Duties to commence as soon as possible.

Salary scale: £3,781-£4,470-£6,027 (bar)-£7,701 (bar)-£8,253 plus £75 p.a.

For further details and an application form, to be returned by 2nd January, 1980, please contact Personnel Officer, Coldharbour Lane, Frenchay, Bristol BS16 1QY.

Please quote Post Reference Number D84/163 in all communications.

LONDON, S.E.1
POLYTECHNIC OF THE SOUTH BANK
DEPARTMENT OF MATHEMATICAL SCIENCES AND COMPUTING
SENIOR LECTURER/READER IN COMPUTING (Ref. X6)

Applications are invited from those able to offer expertise in one or more of—Problem Solving and Reasoning Systems, Information Management, Bibliographic Retrieve, Graphics, Telemetric Programming and Analysis, Extensions to Schedule Programming Languages.

LECTURER II (Ref. X7)
MATHEMATICS (Ref. X7)

Applications are invited from those with experience in at least one branch of applied mathematics with experience of mathematics, computer science and numerical analysis.

Salary is subject to formal approval: £6,016 to £8,799 (Ref. X6) plus London Allowance.

Further particulars and application forms from—Staff Appointments, The Polytechnic of the South Bank, Borough Road, London, S.E.1.

LONDON, SE1
POLYTECHNIC OF THE SOUTH BANK
DEPARTMENT OF CHEMICAL ENGINEERING
LECTURER IN CHEMICAL ENGINEERING (Ref. X11)

Applications are invited for the temporary post (for one year, January/August, 1980) from honours graduates in a relevant discipline. Teaching in first degree is one of the more of the following areas: Fluid Dynamics, Heat Transfer, Thermodynamics, Energy Studies, Process Control, Mathematics for Food Technologists.

Salary is subject to formal approval: in the range of £6,016-£7,701 (bar) plus London Allowance.

Further particulars and application forms from: Staffing Officer, The Polytechnic of the South Bank, Borough Road, London, S.E.1.

LIVERPOOL
THE POLYTECHNIC
DEPARTMENT OF LIBRARY AND INFORMATION STUDIES
RESEARCH FELLOW

Assist in an investigation of user reactions to the impact of industrial relations sponsored by the British Library Research and Development Department. Applicants should be suitably qualified librarians. The appointment will be for a period of one year and the salary will be at an appropriate point in the lower part of the LII scale (£4,470 to £5,568) (Ref. LP/208).

Closing date is 14 days from the appearance of this advertisement.

Application forms and further particulars from the Personnel Officer, The Polytechnic, Liverpool L3 3AF. Tel.: 051-708 8626 ext. 43.

MANCHESTER
THE POLYTECHNIC
HOLTINGS FACULTY
DEPARTMENT OF FOOD MANUFACTURE AND DISTRIBUTION

HO. 72 LECTURER I IN FOOD TECHNOLOGY

To teach and assist in the development of food technology subjects. Candidates should be qualified graduates with a high level in food technology and experience in food industry is desirable.

HO/88 LECTURER I IN BAKING STUDIES

To teach and assist in the development of the Baking Studies aspect of Food Manufacture. Candidates should preferably be suitably qualified in the baking and industry and have a good honours degree framework in food technology.

Salary Scale: £4,470 to £6,149 plus supplement of £6 per month, subject to review. Superannuation. Allowances.

(Start at the top of the Lecturer Grade II Scale on incremental point 1 if appropriate. Lecturer Scale subject to satisfactory efficiency assessment.)

Application forms and further details can be obtained from the Personnel Officer, The Polytechnic of North London, Holloway Road, London N7 8DB. Telephone: 01-607 2789 (24 hours a day). Please quote reference of the appropriate post.

LONDON, S.E.1
POLYTECHNIC OF THE SOUTH BANK
DEPARTMENT OF BUSINESS STUDIES

Required for January, 1980, LECTURER II/SENIOR LECTURER IN QUANTITATIVE METHODS to teach degree and other courses in the Faculty of Administrative Studies.

Enquiries to Lilian Gee, tel.: 01-928 8009, Ext. 242.

SUNDERLAND
THE POLYTECHNIC
FACULTY OF HUMANITIES
DEPARTMENT OF BUSINESS MANAGEMENT
PRINCIPAL LECTURER AND SENIOR LECTURER IN ACCOUNTANCY

Salary scale: Principal Lecturer £7,680-£8,523/£8,639; Senior Lecturer £5,559-£7,701 (bar) £8,253.

Vacancies exist for accountants to join a team teaching accounting and business studies at undergraduate and post-graduate levels in management studies. The successful applicant will be expected to contribute to the development of the subject, to be involved in research and consultancy and to participate in the administration of the department.

An application form and further particulars may be obtained from the Personnel Officer, Sunderland Polytechnic, Chester Road, Sunderland SR1 3SD, and should be returned as soon as possible.

Colleges of Higher Education

ROEHAMPTON INSTITUTE of HIGHER EDUCATION
A federation of Digby Stuart, Froebel, Southlands and Whitelands Colleges

Degree courses offered by the Roehampton Institute are in combined studies and lead to BA, BEd, BH or BSc degrees of the University of London.

LECTURER II/SENIOR LECTURER IN BIOLOGICAL SCIENCE (PHYSIOLOGY)

Required to take up duties as soon as possible, a well qualified Lecturer in Physiology with special interest in Human Physiology and Molecular Biology to teach to Honours level in the field of Biological Sciences.

Salary: Burnham FE Scale (£4,470-£8,253 plus London Allowance £474).

Closing date for receipt of applications: Friday, 4 January, 1980.

Further details and application forms from:
The Assistant Secretary,
Roehampton Institute of Higher Education,
Roehampton Lane,
London, SW15 5PJ.

Colleges of Higher Education continued

ROYAL NORTHERN COLLEGE OF MUSIC
DEAN OF POSTGRADUATE STUDIES

The Royal Northern College of Music invites applications for the post of Dean of Postgraduate Studies, which is to be established with effect from 1 September, 1980. Full details of the scope and responsibilities of this post will be sent on application but they can be broadly stated as carrying two primary and equal areas of responsibility.

Supervision of the conduct of all postgraduate courses at the College (in particular courses leading to the award of the Degree of Master of Music and Postgraduate Diploma) and professional qualifications and concert promotion affecting postgraduate students (in particular the Postgraduate Chamber Orchestra to be established with effect from September, 1980).

This post, which is being established on a permanent pensionable basis, will carry a salary in the region of £10,000 (under review).

Completed application forms, which are available on request, must be returned to the Secretary of the College by Monday, 14 January, 1980. It is anticipated that interviews will be held during the week commencing 28th January, 1980.

HEAD OF SCHOOL OF ACADEMIC STUDIES

The Royal Northern College of Music invites application for the post of Head of School of Academic Studies (salary £6,555-£9,702, under review).

Tenure of this post will be with effect from 1 September, 1980. The holder of this post will, as Head of one of the College's six schools of study, be responsible in the first instance to the Dean of Postgraduate Studies and the Dean of Undergraduate Studies for the conduct of all courses offered by the School of Academic Studies. These include, at undergraduate level, the G.Mus. Honours Degree course, in Academic Studies, supporting courses for students taking undergraduate practical courses and, at postgraduate level, courses leading to the awards of the Degree of Mus.M. and for the Postgraduate Diploma.

Fuller details of the scope and requirements of this post will be made available on request.

Completed application forms, also available on request, must be returned to the Secretary of the College by Monday, 14 January, 1980. It is anticipated that interviews will be held during the week commencing Monday, 28 January, 1980.

ROYAL NORTHERN COLLEGE OF MUSIC
124 OXFORD RD., MANCHESTER M13 9RD
TEL.: 061-273 6283

BUCKINGHAMSHIRE COLLEGE OF HIGHER EDUCATION
Queen Alexandra Road, High Wycombe, Bucks
School of Management Studies and Languages

Lecturer I in Quantitative Techniques

Salary Scale: £3,480-£5,988

Applications are invited from suitably qualified candidates to teach on a range of courses at undergraduate and postgraduate levels.

Candidates should be graduates with experience of or interest in the computer implementation of quantitative techniques in business applications.

Further details and application forms from the Assistant Director, to whom completed forms should be returned as quickly as possible. Please enclose s.a.e.

Announcements

GEORGE WASHINGTON UNIVERSITY
Washington, DC 20052

The Department of History will have a three-year, renewable position available in Fall, 1980 at the level of

Assistant Professor
Modern Russian, 19th and 20th-century Historian

D.Phil. required. Salary negotiable. Evidence of publication desirable. Send resumes to Professor Howard Sachar, Chairman, Russian Search Committee, Department of History, George Washington University, Washington, DC 20052, U.S.A.

Personal

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£100 to £20,000
No security needed
REGIONAL TRUST LTD.,
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New Bond Street,
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Phone: 01-734 9095 or 2914

Colleges of Further Education continued

OXFORD
JOINT APPOINTMENT IN WOMAN'S STUDIES AND THEOLOGY

Applications are invited from women and men who are prepared to teach at RIPON COLLEGE, CUDDESDON (Anglican) and WESTMINSTER COLLEGE (Methodist) for the Diploma of the Director of the Oxford Institute for Church and Society.

Candidates should be qualified in Ecclesiastical Studies at honours degree level.

Details available from: Professor Peter Clarke, Director, Oxford Institute. Closing date for applications: 30th January, 1980.

Colleges and Institutes of Technology

NEWHAM
London Borough of
EAST HAM COLLEGE OF HIGH TECHNOLOGY
High Street South, London E6
BA (Hons) in ART AND DESIGN
Lecturer II, Graphics
DEPARTMENT OF ART AND DESIGN
LECTURER II, GRAPHICS STUDIO

An experienced Graphic Artist required for a responsible post to teach two-year 12 plus course, which is a broad based course, suitable with the skills and knowledge required for Undergraduate Above average qualifications in artistic ability should be apparent and should be clearly demonstrated in the application. Ability to teach to a high standard is a pre-requisite.

It is expected that the person appointed will be responsible to the course leader for day-to-day organisation and day-to-day running of the course and work programme, whilst making a contribution to studio work development and to wider aspects of the College life.

Salary: £4,470-£7,149 plus £474 plus £474 London allowance.

Applications from the persons details may be obtained by writing to the College Administrative Officer, including a stamped addressed envelope (foreign forms should be returned within 7 days of the appearance of this advertisement.

Lothian Regional Council
NAPIER COLLEGE OF COMMERCE AND TECHNOLOGY

SENIOR LECTURER A in OFFICE ADMINISTRATION AND SYSTEMS

Salary on Scale £7,809-£8,682 (Bar)-£9,846

to assist in the Development of Secretarial Studies in the development of the proposed B.A. in Commerce.

Applicants should possess a degree and/or equivalent professional qualifications, Industrial or professional and teaching experience is essential.

LECTURERS A in OFFICE ADMINISTRATION AND SYSTEMS

Salary on Scale £4,464-£7,831 (Bar)-£8,397

to teach in the Department of Secretarial Studies on a range of courses and to contribute to the development of the proposed CNAA B.A. in Commerce.

Applicants should possess a degree/honours degree and/or equivalent professional qualifications and preferably have had industrial, research or teaching experience.

LECTURER A in ELECTRONIC ENGINEERING

Salary on Scale £4,464-£7,831 (Bar)-£8,397

to teach in the Department of Electrical and Electronic Engineering on courses up to and including degree level. Candidates must have an honours degree in electrical engineering. A higher degree, industrial or research experience, and teaching experience would be an advantage.

LECTURER A in MATHEMATICS

Salary on Scale £4,464-£7,831 (Bar)-£8,397

required in the Department of Mathematics to lecture to science, engineering, business or commercial students on Diploma, commercial, Professional, or CNAA Degree courses. Preference may be given to applicants who have had industrial experience or mathematical applications or who have a further degree in applied mathematics, operational research or statistics. A willingness to participate in applied research will be an advantage.

Applicants should possess an honours degree or equivalent professional qualifications.

Application forms and further particulars from:
The Administrative Officer (Personnel),
Napier College of Commerce and Technology,
Colinton Road, Edinburgh EH10 5DT.

Research Posts

UNIVERSITY OF CAMBRIDGE
Department of Engineering
RESEARCH ASSISTANT
STIRLING CYCLE MACHINES

Applications are invited for a post of Research Assistant in a small team carrying out theoretical and experimental work on STIRLING CYCLE MACHINES. The work is sponsored by the Science Research Council. Applicants should have a good honours degree (or equivalent) and have studied engineering thermodynamics. Preference will be given to those with practical experience, particularly where this has included design work and/or the preparation of engineering drawings.

Starting salary will be in the range £3,775 to £4,910 p.a. (under review) depending on age, and registration for a higher degree may be possible. Appointment will be for a period of up to three years.

Further information and application forms are available from the Secretary, Faculty of Engineering, Trumpington Street, Cambridge CB2 1PZ.

JAPAN FOUNDATION ENDOWMENT COMMITTEE
GRANTS FOR TEACHING AND RESEARCH

The annual income from a donation made by the Japan Foundation is available for disbursement by the Committee established under the auspices of the U.G.C. for the promotion of Japanese Studies in University Institutions in the U.K. and administered from the University of Sheffield.

Further particulars and application forms are obtainable from the Academic Secretary, Japan University, Sheffield S10 2TN, to whom applications should be sent by January 11th, 1980. Quote Ref: R294/DI.

THE UNIVERSITY OF LEEDS
DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING
SPREAD SPECTRUM MOBILE RADIO SYSTEMS

Applications are invited for a post of RESEARCH FELLOW to work on a study of spread spectrum techniques in mobile radio systems. Previous experience of problems in v.h.f. or u.h.f. communications may be useful, but the prime requirement is the ability to consider unconventional methods of providing communication in land mobile systems. The study will include both a theoretical and experimental work on the systems proposed.

Applicants should have or expect to have a Ph.D. or have obtained equivalent experience. The work is supported by the Home Office Directorate of Telecommunications and will be carried out under the supervision of Professor P. A. Matthews. The appointment will be for a fixed term of up to two years.

Salary at an appropriate point on the IA scale for Research and Analogous Staff £4,333-£7,521 (under review).

Application forms and further particulars may be obtained from the Registrar, The University, Leeds LS2 9JT, quoting reference number 86/8/DO. Closing date for applications 4 January 1980.

BIRMINGHAM
THE UNIVERSITY
DEPARTMENT OF CIVIL ENGINEERING
RESEARCH FELLOW

Applications are invited for a RESEARCH FELLOW (Grade 1A) to investigate under the supervision of Dr. A. Dietz, the design of reinforced concrete slabs by finite element full-time teaching position. Applicants should be graduates in civil engineering, mechanics and preferably have applied mathematics and computer skills. Interest in new forms of energy is desirable.

Applicants to take up post as soon as possible.

Salary £6,000 per annum.

Salary £6,000 per year. Superannuation. Housing assistance may be available. All letters to: The Secretary, The Department of Civil Engineering, The University, Birmingham B15 2TT.

Administration

NORTH LONDON
THE POLYTECHNIC
ADMINISTRATIVE ASSISTANT

There is one vacancy in the Registry for an Administrative Assistant (£5,079.54 (including London Allowance)). Initial salary will depend on qualifications and experience and will probably be in the middle of the scale; there are also opportunities for promotion in due course. Preference will be given to those with responsible experience, not necessarily in educational administration. Young graduates with no formally to be considered.

Applicants not apply directly, but ask for job details which describe how to apply. Open to Establishment officer, The Polytechnic of North London, Holloway Road, N7 8DB. 01-607 2789, extension 2016.

LEEDS
THE UNIVERSITY
THE REGISTRY

Applications are invited for two posts of ADMINISTRATIVE ASSISTANT in the Registry from graduates interested in making a career in university administration.

Salary on the IA scale for Administrative Staff £4,333-£7,521 under review with effect from 1 October, 1979.

Further particulars may be obtained from the Registrar, The University, Leeds LS2 9JT, quoting reference number 137/25/DO. Closing date for applications, 8 January, 1980.

LONDON
SOCIAL SCIENCE GRADUATE

Applications are invited from young social science graduates for a SECRETARIAL OFFICER post with the Social Science Research Council. The successful candidate will work as part of a team supporting the secretariat for the Economic and Social Research Committee and Statistics Committee.

The start of the secretariat are not themselves engaged in research but provide support for the Committee which assess applications for grants to support research projects being undertaken in universities and independent institutions and which are involved with a variety of other matters relating to research in the field which they cover.

Applicants should normally be under 27, have good honours degree in the Social Sciences and have a genuine interest in research administration. Experience in administration or research would be an added advantage.

Commencing salary scale £5,040 to £5,826 per annum (including inner London weighting), and with effect from 1st January, 1980, £4,971 to £5,826 inclusive of Inner London weighting. Starting salary may be above the minimum depending on age, qualifications and experience. The hours of work are 35 per week, and the staff enjoy flexible hours and the benefit of a pension scheme in the public and private sectors, and a contributory non-contributory pension scheme.

Application forms and further details may be obtained from: David Emerson (Ref. RO/CHES), Social Science Research Council, Fowler House, Annexe, Southampton Row, London WC1B 5HD. Telephone 01-343 5942/5941. Closing date for applications: 4 January, 1980.

Overseas

UNIVERSITY OF CAPE TOWN
DEPARTMENT OF ELECTRICAL ENGINEERING
SENIOR LECTURER

Applications are invited for a above vacant post. Appointment will be made, according to qualifications and experience, on the salary scale R11,400 x 500-R15,600 p.a.

The successful applicant will be required to teach in the category, research. Though preference will be given to applicants with interests in digital techniques and the application of small computers and micro processors, persons with other interests will be considered.

Applicants should submit a curriculum vitae, stating personal salary, research interests and qualifications, the date duly could be assessed, and the names and addresses of three referees.

Further information should be obtained from the Registrar, Room 10, University of Cape Town, Private Bag, Rondebosch, C.P. 7700, South Africa to whom applications must be received not later than 14th February, 1980.

The University's policy is not to discriminate in the appointment of staff or selection of students on the grounds of sex, race, religion or colour. Further information on the implementation of this policy is obtainable from the Registrar.

FRANCE
ECOLE SUPERIEURE D'INGENIEURS
EN ELECTRONIQUE ET ELECTROTECHNIQUE

Electrical engineering grande école in Paris seeks qualified British English speaking teacher for permanent full-time teaching position in electrical engineering, mechanics and thermodynamics, applied thermodynamics, and computer programming, interest in new forms of energy is advantage. Applicant to take up post as of September, 1980.

Salary 80,000 F.F. per year, tuition, housing, transport possible. All teaching in English. Send curriculum vitae to:

International Division (Engineering Dept.), Ecole Centrale de Paris, 75013 Paris.

Applications accepted immediately.

Courses

SOUTH DEVON COUNTY COLLEGE
Kingsbridge

Facilities for running field courses in BIOLOGY, GEOGRAPHY, CIVIL ENGINEERING, etc.

Instruments, also suitable for photography. Cottage and moorland.

Laboratory/lecture room available April 1st. Write: Dept. H.E.S. Telephone: (054 884) 247.

EDUCATIONAL POSTS OVERSEAS

TWO SPECIALISTS IN MATERIALS PRODUCTION
(Malaysia)

Required for the University of Malaysia Spoken English Project, Kuala Lumpur for 1 April 1980. The Project is aimed at improving the fluency in English of graduates in Law, Economics, Literature and Social Sciences.

Candidates should hold an MA in Applied Linguistics or a related field, and have 5 years' experience of English language teaching and/or materials production. Experience of either discourse analysis or textbook writing would be an advantage.

Salary: £6,857-£9,494 pa.

Benefits: 3 year contract with passage paid leave after 2 years; personal and family allowances; free furnished accommodation. Car loan and medical care provided locally. 79 PU 133/4

TWO LECTURERS (EFL)
(Saudi Arabia)

Jeddah Oil Refinery Company Training Centre.

Lecturers required as soon as possible to assist in design and teaching of English Language courses for trainee maintenance craftsmen and operators. Candidates must be single men, age 26-35, with degree and TEFL qualification, teaching qualification and connected experience desirable.

Salary: £5,990-£7,434 pa payable in sterling.

Benefits: Overseas allowance; free furnished accommodation; employer's share of superannuation scheme; medical scheme; car loan. One-year contract, possibly renewable. 79 AO 88

Return fares are paid. Local contracts are guaranteed by the British Council. Please write briefly stating qualifications and length of appropriate experience, quoting relevant reference number and title of post, for further details and application form to The British Council (Appointments), 65 Davies Street, London W1Y 2AA.

THE BRITISH COUNCIL

General Vacancies

ROYAL SOCIETY OF ARTS EXAMINATIONS BOARD

SECRETARY TO THE BOARD

(£11,500–£12,500)

The Examinations Board is responsible for the Society's role as a major examining body principally in business studies, including secretarial skills, and languages. The level of examinations range from elementary to post-graduate, with around 700,000 candidate entries being handled each session.

As a result of a reorganisation of duties within the Society's Examinations Department the present Secretary to the Board will fill the newly created post of Chief Officer and will retain overall management responsibility for the work of the whole Department.

Applications are now invited for the post of Secretary to the Board. The new Secretary to the Board will be responsible to the Chief Officer for the academic division of the Examinations Department and will have full responsibility for servicing the work of the Board and its various committees. The appointment will be based in London.

The successful candidate will be required to have considerable experience in a post of senior responsibility connected with education and will be expected to assist in the continued development of the Board's examinations. The salary for the post will be £11,500–£12,500.

Further details may be obtained from Robert Chantry-Price, MSc, (Chief Officer Designate), Royal Society of Arts Examinations Board, 8 John Adam Street, London WC2N 6EZ. Applications for the post marked 'Confidential' should arrive not later than 31st December, 1979.

MONETARY ECONOMICS SPECIALIST

The gilt-edged department of a major firm of London stockbrokers is looking for a specialist in monetary/financial economics. The person we are seeking will be required to assist in the formation of the department's views on the trend of business activity, balance of payments, inflation, money stock and interest rates and to communicate them to our institutional clients.

The position will appeal to somebody with high academic qualifications who is keen to respond to the demanding and exciting challenge of putting theory into practice.

The position is an important one and will command a remuneration package of not less than £12,000.

Apply in confidence to David M. Shaw at Fielding, Newson-Smith & Co (Members of The Stock Exchange), 31 Gresham Street, London EC2V 7DX. Telephone 01-606 7711.

Courses continued

BRIGHTON POLYTECHNIC

Centre for Art Teacher Education

MEd (Art and Design) of the University of Sussex

Applications are invited for places on this course, which is designed for qualified teachers of art and design with at least five years' teaching experience who wish to study and engage in curriculum development in their subject. Candidates should normally hold an appropriate first degree o requivalent. Duration of study: one year (full-time), plus two terms (part-time) of supervised research.

Further information and application form from the Registrar, Brighton Polytechnic, Mithras House, Lewes Road, Moulsecoomb, Brighton BN2 4AT. Telephone 0273 693655.

Courses

LONDON
INNER LONDON EDUCATION AUTHORITY

GARNETT COLLEGE

EDUCATION AND TRAINING FOR TEACHERS AND ADMINISTRATORS IN FURTHER EDUCATION

Applications are invited for the following courses:

COUNCIL FOR NATIONAL ACADEMIC AWARDS

BACHELOR OF EDUCATION

Three years' part-time study. Prepares candidates for further study and research in further education. Candidates should be serving teachers with an initial teaching qualification and a minimum of two years' experience.

UNIVERSITY OF LONDON

DIPLOMA IN FURTHER EDUCATION

One year full-time or three years' part-time study. Relative the study of further education to contemporary educational theory and to current development. Candidates should have reasonably substantial teaching or administrative experience in further education, administration or industrial training.

UNIVERSITY OF LONDON

DIPLOMA IN EDUCATIONAL MANAGEMENT

Two years' part-time study. Aims to provide a sound academic grounding in educational management and an opportunity to improve management skills. Candidates should have reasonably substantial teaching and/or administrative experience in further education or associated fields.

UNIVERSITY OF LONDON

DIPLOMA IN EDUCATIONAL TECHNOLOGY
(for Further Education)

Two years' part-time study. Develops professional competences in the management and organization of learning resources. Candidates should have initial professional qualifications and be experienced teachers, librarians or administrators in further or higher educational establishments, local government service or industrial training.

DIPLOMA IN ENGLISH LANGUAGE IN FURTHER EDUCATION

Two years' part-time study. Aims to provide a depth study of language that can be applied to the practice of teaching and equip the holder for an English advisory capacity on matters of language, both in their own education colleges. Candidates should have a relevant degree (or equivalent) and be trained teachers with a minimum of three years' teaching experience.

SHORT COURSES

A range of short courses is run throughout the year by the Garnett Centre for Short Courses and Curriculum Development. Details of the programme are available on request.

CERTIFICATE IN EDUCATION

Sandwich or part-time courses extending over one, two, or three years. Provide a basic course in the theory and practice of teacher education for those engaged in the teaching, or training of, 16 to 50 age group.

Candidates should apply as soon as possible, specifying the course(s) in which they are interested, to the Principal (Ref. 7/185), Garnett College, Downshire House, Roehampton Lane, London SW15 5PJ. (telephone 01-788 6233).

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For the serious reader and booklover, the TLS is unrivalled; for anyone who wants to keep in touch with significant developments in contemporary thought and writing it is indispensable.

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Union view

In search of the ultimate questions

Even among the sober responsible readership of *THES*, there are bound to be a few lively souls who have, at least, a passing interest in science fiction. Recent events have brought to mind a series entitled *The Hitchhiker's Guide to the Galaxy* recently repeated on Radio Four in which a race of hyper-intelligent but naive, white mice construct an enormous computer to provide the answer to the ultimate question "about life, the universe and everything . . .

After due deliberation for seven million years the machine delivered the ultimate answer to the ultimate question—42. Unfortunately by this time no one could remember the ultimate question so nobody was any the wiser!

The moral is this: the ultimate answer to the problem of public sector higher education lies in the creation of a national body. What is less clear is the identification of the questions and problems to which we need an answer.

The creation of a national body was agreed early in the deliberations of the Oakes Committee. It was the single major recommendation of the committee that was accepted quickly, with little discussion, by all the interested groups present. As a recommendation it was far more significant than the convoluted proposals for financial control and the consequential "capping" of the pool. Indeed, the only real merit of the financial recommendations in the Oakes Report was that they were agreed, albeit unenthusiastically, by all the parties concerned.

So what are the ultimate questions to which the national body is the ultimate answer?

Ultimate Question Number One. What is the policy of the Government towards the public sector?

It is accepted that a substantial proportion of the work of polytechnics and institutes of HE is national in character. The sector recruits nationally and the students who benefit from the education and training that is provided form a national pool of expertise and knowledge. Yet course approval, as distinct from validation, seems to be devoid of any element of coherent national planning, and the mechanism for such approval is tedious and time-consuming for the institution and often serves to frustrate rather than encourage academic initiative. A national body would provide a vital forum where government, both national and local, the lecturers and the institutions could discuss and reach agreement on the extent and type of education in the public sector. So much energy will be needlessly wasted if some planning is not done soon.

natfhe

Ultimate Question Number Two.—How is the provision of resources matched to the academic developments in public sector institutions?

There is absolutely no point in continuing to operate a system that enables a course to be approved, developed and validated, only to find that the resources in terms of additional staff and equipment cannot be made available. In its response to the Oakes Report NATFHE accepted the closure of the Advanced Further Education (AFE) pool as there was a mechanism, provided by the national body, to ensure that resources would be linked to academic developments, so that time and effort would not be wasted. The "capping" and distribution system proposed in the Education (No. 2) Bill is the most appalling political *ad-hocery*. An authority's share of the AFE pool in 1980-81 will be proportioned to 50 per cent of its actual expenditure on AFE in 1978-79, plus 50 per cent of its estimated expenditure in 1980-81. Such a formula will ensure that authorities that have expanded their polytechnics and colleges recently, will be penalized above and beyond any cut backs imposed by the reduction in the size of the pool.

It seems likely that this rough and ready mechanism will be imposed on the public sector for at least two damaging years.

Ultimate Question Number Three. Will the status of institutions change?

I'm a little hesitant about giving this problem the status of an ultimate question simply because the issue is not being raised widely enough to qualify. It has been clear for some time that some polytechnic directors have favoured their polytechnics being made corporate bodies. The issue was raised and discussed in the Oakes Committee but no recommendation was made simply because the evidence suggested that while corporate status conferred some advantages, there were also attendant disadvantages and that on close analysis such a status did not provide a solution.

Interestingly, the focus of this argument now seems to have shifted away from the authorities and aimed towards the CNAA. Clearly, after some years of CNAA experience it is understandable that institutions should wish to flex their academic muscles to achieve greater freedom in curriculum design and to be subjected to less detailed and bureaucratic control from the council. This problem may be resolved in the gradualist approach towards self-validation that has been adopted by CNAA, but the creation of the Committee of Institutions could well lead to more detailed scrutiny in exactly the area where there is the greatest sensitivity: the management and executive structure of institutions. The work of this new committee must be monitored with care to ensure that it does not give rise to excessive interference which would lead to even more exotic proposals for autonomy.

If the future status of institutions is to be questioned this must inevitably imply the possibility of a change in institutional role. As such the question would need to be resolved in a national forum and not by individual initiatives from particular institutions or polytechnic directors.

These are the questions currently facing the public sector to which, in NATFHE's view, the answer must lie in the creation of a National Body for Advanced Further Education. There are, of course, other questions, not least the relationship between the universities and the public sector which need to be answered. But the overriding consideration must be one of urgency. The National Body was needed several years ago; it is now needed desperately if the strength and vigour of the public sector is to be carried forward into the eighties.

Peter Knight

The author is the ex-president of NATFHE and a senior lecturer in physics at Plymouth Polytechnic.

Mr Carlisle and the pool capping

Christopher Price

Listening to a standing committee of the House of Commons is seldom an illuminating experience. Government backbenchers doing their correspondence, Ministers occasionally rising to read briefs, Opposition members just going on at interminable lengths.

Such is the Standing Committee on Education (No. 2) Bill. Probably the committee's greatest educational expert, Malcolm Thornton, the Conservative member for Liverpool (Garston), is bound by Trappist vows of silence. Dr Boyson regales us from time to time with DES jokes and, for myself, savouring the first taste of Opposition over, the orgy of loquaciousness is a novel and exhilarating experience.

So far we have been doing the pool hire—governors and admissions; and then we'll come to the bits—loosening all those statutory provisions over school meals and transport which Lord Butler, younger years, imposed on our educational system in an effort to make his rural backwoods friends take education rather more seriously.

But after that we come on to higher education, or at least the public sector of it—we are to be asked to give Mr Carlisle the powers he wants to "cap the pool".

To many MPs this sounds like an elaborate device for breaking the bank at the Claremont Club.

In fact, of course, it is a method of sharing among local authorities uneven burdens—it was invented to spread the load of teacher training in 1936, developed to cope with the problem of students who did not live anywhere in particular in 1948 and grew into a multi-million pound business with its application to advanced further education in 1959.

In 1958 the Macmillan Government had switched local authority support from specific to general grants, covering (nearly) all rate expenditure.

Yet the big cities had virtual universities to support, while the counties did not dabble in such expensive educational extras.

So a third pool was invented, as a brilliant expansionary device, through which the big cities did not have to worry about higher education costs, because the more they spent, the more they recouped.

In a decade of expansion, all this was fine. It coped with the development of the polytechnics and the translation of our teacher training colleges into institutes of higher education.

But as retrenchment and cash limits descended, it increasingly worried local councillors. Everything was placed in a financial corset—except advanced further education.

The best image put to me was that of an ever fattening goldfish in a bowl of fixed size—the bowl being cash limits, the fish, polytechnics and colleges, and the water all other (especially educational) expenditure.

As the fish fattened, more and more precious water kept slopping over the edge of the bowl. The process had to stop. The fish needed a corset too—or at any rate a cap.

So, for a transitional period, the pool to be capped and advanced further education contained within cash limits based of a compromise between historic costs in the past and honest estimates for the future.

But that is just a makeshift for the next two years. Beyond that some coherent system must be devised, and there is little evidence that Ministers have yet seriously addressed themselves to its creation.

They were handed ready-made machinery by their Labour predecessors in the shape of the Advanced Further Education Council. But it suffered from both its constitution and its eponymous label—it was a patent quango and had become known as "Oakes", after Dr Boyson's Labour predecessor in office.

Its Socialist connotations were too great. The danger now is that the Department of Education may, throught its own and ministerial torpor, take upon itself the task of working out, year by year a separate unitary grant for every course and every college in the land, a task it has never even contemplated in earlier, lushor years.

The operation is, of course, all of a piece with the unitary grant exercise which Mr Heseltine is trying on for local government as a whole.

The whole thing is bizarre. The Conservatives went over to general grants in 1958, on the grounds that—at a time when Britain's growth rate was its highest ever—the costs in terms of central bureaucracy and civil service manpower, of unitary grants worked out in Whitehall were unacceptable.

Heseltine and Carlisle, the crusading anti-bureaucrats now think otherwise!

Which brings me back to Parliament and its committees, one of whose jobs is to restrain ministers from folly.

I hope by the time we reach clause 31, even Mr Thornton, who as an ex-chairman of the AMA education committee, was once a champion of coherent local control, will break his vows and speak out to prevent our public sector of higher education becoming bureaucratized on the French model. I certainly shall.

Don's diary

"We have learnt that television lectures are not very effective. Television should do what television is good at."

It was not the originality or profundity of this recent statement that particularly impressed me when I heard it, but its source—Professor Zun Hua Wang, from Peking's Central Broadcasting and TV University, the Chinese equivalent of the Open University. They may have only been operating for a short while with what they insist is only a pilot sample of 100,000 students, but the Chinese sound as if they have grasped immediately the respective strengths of the different media.

Professor Wang was but one of the many foreign delegates attending the International Conference on Educating Adults at a Distance (CEAD) organized by the British Open University to celebrate its tenth anniversary. So many of the problems and challenges facing our colleagues around the world sounded familiar that it was the occasional striking new image that stuck in the mind. The president of California's Coastline Community College, Bernard Luskin, attacked the old and traditional approach to education: "It was like measles; you took it and it was over". He thought those perceptions had changed, but after we had heard his statistical analysis of the United States of America, as a nation of 400 million radios, 121 million television sets, 61 million newspaper subscribers, and 60 million bathtubs, our perceptions of a country many of us think of as almost religiously devoted to hygiene shifted somewhat. He had no statistics on the time spent bathing, but the average television set is turned on in the average American household for 6 hours and 16 minutes of each day. Not very much of that time is given over to anything even vaguely described as "educative"—let alone educational in the British sense, but it is clear that the American educational world is now very aware that it is way behind other countries in the educational television business.

The American delegates to CEAD were positively electrified by a reference in Lord Perry's closing speech that Walter Annenberg, former United States ambassador to this country, had just announced that the Annenberg Foundation was giving $150m over 15 years to set up an American University of the Air.

Earlier in 1979 at the Convention of the American Association of Community and Junior Colleges in Chicago it was most interesting to sit as an invited observer at their Task Force on the Media, and listen to descriptions of the detailed attempts at syndicating educational television courses across the States by interchange, co-production, and multi-use of BBC series.

"The media" tends to be a very loose term bracketing together television, radio, the press and various other ancillary communicators these days, with educationists active in all of them; but it is only when one moves from one to the other that the differences begin to outweigh the similarities. As a broadcaster I have worked under many different time-pressures, from completing everything in one day to a series that may take many months.

But to the world of publishing a book completed in a few months is breakneck speed. The book based on the series of Radio 4 interviews with Sir John Gielgud, *Art Actor and his Time*, was published on November 15 from a manuscript whose first draft was handed over in April. When I think of the many metamorphoses through which it subsequently went, with all the proof-reading at every stage, I am rather staggered that we actually got it out in the time.

One of the major rewards of such a project, both for radio and the subsequent book, was the amount of time spent in the company of one of our greatest actors. My own attempts to try and encompass his contribution to the theatre of this century I felt were somewhat eclipsed by the vivid and much shorter tribute paid by one of his peers at the Foyle's luncheon to launch the book. Sir Ralph Richardson described his pleasure at a lifetime's partnership, and in Shakespeare referred to the Gielgud voice with its "long melodic phrase" approaching the famous Clarence speech in *Richard III*, with 60 lines and only eight full stops. He would take "one great armful of verse up to the first fullstop, pour the verse into a casket and gently shut the lid of the casket". Sir John himself told me how in his early days when he did not understand a particular Shakespearean passage he concentrated on the punctuation and that seemed to get the sense right too.

There is a rather puritanical view prevalent in some educational circles that drama is somehow an illegitimate tool to use in education, as "not relevant" somehow compared with real people in real situations. Ignoring for the moment the sometimes very unreal situations in which we place people to capture their "reality", what has always attracted me to the use of drama in an Open University context is the concentrated distilled experience that can be conveyed in a carefully scripted programme, and the highly professional approach that actors bring to their work, regardless of the size of the audience.

In fact many actors jump at the chance of working on Open University programmes because of the quality of the scripts. This year we have had two examples of that. The first was an adaptation of Dostoevsky's *The Gambler*, with Dorothy Tutin playing Anna Dostoevsky; and the second was a specially commissioned play from Alan Plater, *Reunion*, a two-hander for Richard Pasco and Nicholas Selby. Both these plays are for a new course on "Risk", to be presented for the first time in 1980, which examines many aspects of risk and chance, including mountaineering, flying, human relationships.

For one programme we filmed how *Horizon* brought the risks involved in nuclear waste disposal to the screen. My academic partner, Christopher Pollitt, has made a considerable study of the nuclear industry, and by the time we had completed our film we were both rather sorry that we only had our usual 25 instead of *Horizon*'s 50 minutes to cover the subject.

One problem that constantly exercises us is the question of updating material, whether in print or the broadcasting media. The minimum four-year life of course material has already been extended in a number of courses, and in a time of general retrenchment is likely to become more widespread. Because it is possible for broadcasting to be more flexible than print we have quite often remade out-of-date programmes or simply made a new and quite different one. I did this earlier this year when the Government fell so dramatically and we were thrust into a General Election. The Television and Politics case-study for the *Mass Communications and Society* course had always lacked a British election study, so I followed a day in the television news coverage of the campaign, as exactly the halfway point. I shot it in April, edited it in May, and transmitted it in June.

It is not, of course, always possible to guarantee that Parliament will time events so conveniently for transmission, but we are building in a regular updating element to one of the new courses, *Contemporary Issues in Education*.

For what will effectively be our foundation course, a full-credit with 24 television and 24 radio programmes, we plan a regular monthly radio programme that will not be made until a day or so before transmission and will deal with the major educational issue or issues of that week. We could not possibly make more than a small fraction of our programmes in that topical mode, but the course team is looking forward to being a little more dangerously once a month from 1981 onwards.

John Miller

The author is BBC executive producer at the Faculty of educational studies, Open University.

Laurie Taylor

He moved the Marmite a little to the left. Pretty good. The brown little tub nicely balanced the lean Sharwood's Chutney for he arranged on the left of his display.

Time now for the marmalade. A good jar: same shape as those his mother used to fill with hot blackberry jam in those warm autumnal days in Sutton Coldfield. (Not that he ever ate the damn stuff: couldn't really bring himself to once he'd realised that the large saucepan full of bubbling pulp and sugar was the very one in which the household handkerchiefs were boiled every Friday: "Snot jam" his sister called it.)

God Almighty. For the third time that day he suddenly realised that he was in completely the wrong part of the house and compulsively engaged in totally meaningless behaviour. The third time, for God's sake. I mean he'd originally sat down to mark that damn-and blasted thesis on *Subcultural Style in the Fifties* immediately after breakfast and fifteen minutes later had discovered himself (there was no other way to describe the experience) outside the house kneeling down and arrangement brushing bits of dust and hair off the carpet of his Datsun.

He'd dragged himself back to his desk, actually gripped one wrist with his free hand and led his body up the front garden, along the hall, and up two flights of stairs to his study and the waiting thesis. And then he'd tried again. They were just words he'd said to himself. English words. All one had to do was throw a psychic switch and start reading them.

"*It will be assumed in this context that the pre-categorical realities of bourgeois society. . . .*"

Not bad so far. At least he was still at the desk and although he could not for the life of him think what might be "the pre-categorical realities of bourgeois society", he felt he was on his way towards some understanding. He knew for certain, for example, that these pre-categorical realities were not, well . . . not wardrobes or chairs or window frames. It was a beginning. He'd even jotted down an initial comment: "Inadequate treatment of 'Nancy Whiskey and *Freight Train*'".

"*. . . the pre-categorical realities of bourgeois society are not necessarily inscribed in the signifying practices of the skiffle style (qua style).*"

And then, less than three minutes after reading that sentence he'd once again found himself no longer at the desk, but this time actually standing knee deep in a trench at the bottom of the garden muttering something about getting the compost well dug in.

This must be the third and last attempt. Right. He shovelled the jam jars and sauce bottles into the cupboard and strode upstairs.

"*The reconstruction of the 'text' of skiffle demands an adequate recognition of the semiotic transformations which Donegan works upon familiar signifiers, as for example in the phrase 'Get your ticky (not as convention would have it ticket) at the station on* the Rock Island Line'".

It was going well. One more paragraph out of the way. Could be finished by lunchtime. He bowed his head again and stared at the words. Something almost like mild interest began to flow through his veins.

Another five minutes and he'd be able to ignore the slight trickle of blood which was even now staining his sock and beginning to seep along the piece of electrical flex which held his ankles firmly fastened to the legs of the desk.

LETTERS TO THE EDITOR

Arguments for granting charters to polytechnics

Sir,—Your two leading articles on higher education (November 30) are strangely in conflict. In the first you conclude that "The case for a new Robbins . . . can only grow". In the second, you try in a statement that is ill-judged and distinguished by its internal contradictions to close off discussion of one of the more serious issues confronting higher education in Britain. The need cannot be dismissed for the polytechnics to be provided with academic, financial and administrative arrangements which are capable of recognizing and promoting further their achievements. A more detached commentary could have set out some substantial arguments for radical change. This letter is concerned only with arguments bearing on the granting of charters designed to affirm the academic and professional role of polytechnics and so recognize their standing:

1 Polytechnics were charged with the responsibility of developing "as mixed communities of full-time and part-time teachers and students . . . (with) . . . closer and more direct links with industry, business and the professions". (Cmnd. 3006, 1966.) Substantial progress has been made over an initial period of ten years, despite the fact that much of this period has witnessed financial retrenchment. In Bristol Polytechnic, for example, well over 90 per cent of the 13,000 students (taking full-time, sandwich, part-time and short courses), are preparing themselves directly for a career or are retraining. Moreover, approaching 70 per cent of the students are already working people, so representing a major commitment to continuing education. The polytechnic's academic and professional work is based on a substantial core of undergraduate and postgraduate courses involving 3,000 students drawn from the country at large; this figure is as large or larger than that of some of the universities, though the courses have, for the most part, a more directly vocational emphasis.

My experience as a head of department in both the University of Toronto and the University of Leeds reinforces my conviction that the constraints which, exceptionally as major institutions of higher education, confront the polytechnics in relation to the validation of academic affairs must be removed. This anomaly between the universities and the polytechnics emphasizes the persistent failure of the CNAA to develop a sensible form of partnership with polytechnics and so to assist them more effectively to respond to the pressing need for well qualified people who can provide trained leadership in dealing with the country's problems. Many of these problems arise from the accelerating pace of technological change and its economic and social consequences. Polytechnics with their task of providing an approach to higher education which interacts directly and closely with the world of practical affairs have a special responsibility to develop courses which prepare people to deal constructively with problems of change in society. It has to be said that the style of operation of the CNAA is one of the most serious constraints on the fully effective discharge of this responsibility. The response time of the council in validating courses is excessive; and the compromises in course design which arise from the resolution of the often marked differences of opinion within the validating boards affect adversely the quality of the work of polytechnics.

2 Given a charter to award degrees and other qualifications within carefully defined limits, the staff of a polytechnic working through well-tried internal validating procedures, drawing on the advice of external assessors, *including* those from industry, commerce and the professions, would be in a position to respond much more quickly and effectively to the vocational needs of higher education, including the needs for problem-solving research within organizations in the private and public sectors. There would be substantial savings in time and resources from the removal of the present duplication of effort through the CNAA; and, of overriding importance would be the clear responsibility on institutions and their staff whose professional satisfaction and livelihood depends on their ability to set and maintain high standards to develop courses which would attract able students, strongly motivated to prepare themselves directly for a role in the productive life of the country.

3 The argument that the granting of a charter would prompt "academic drift" in the polytechnics is superficial in the extreme. The academic boards and governing bodies of polytechnics have a deep commitment to the distinctive role of their institutions. Their ability to sustain this role would be reinforced by the more responsive relationship with industry, commerce and the professions made possible by the granting of charters. Any pre-existing departure from such a role could be dealt with effectively by a national body for higher education which was designed to "steer" effectively and to do so through the allocation of resources. A national body could also deal with excesses of "vocational drift" in those universities which in pursuit of student numbers and thus of resources are tempted to depart from their fundamental role in the advancement of knowledge and the education of those students (and not necessarily the majority) whose motivation for learning is most effectively developed in that context.

4. Given the cost of higher education it is of the utmost importance that students should enter it with the strongest possible motivation to excel. It is clear that there is a large body of able students whose motivation is strengthened by close contact through sandwich courses and through other forms of project work with the realities of the world of practice. Many of the academic staff of polytechnics have first-hand experience of industrial and professional practice and are expected to maintain and develop this experience through research, consultancy and secondment. It is important that students who are in principle attracted to courses which can provide the motivation which they need to excel should not be diverted elsewhere (often under pressure from schools and parents) because polytechnics have not been given the recognition and standing which are inevitably linked in the public mind with the granting of a charter.

The essential argument then for the granting of charters to polytechnics is to affirm the importance of their distinctive approach to higher education and to provide thereby the recognition and the authority which would enable this approach to find its fullest expression in the educational and productive life of the country.

Yours sincerely,
WILLIAM BIRCH,
Director,
Bristol Polytechnic.

Sir,—As a member of the academic board and governing body of Leicester Polytechnic, I was intrigued to learn from your front page that the assistant deputy director of the Leicestershire L.e.a. had informed *The THES* that "the proposal (i.e. for a charter) had been the subject of discussions with the polytechnic". It seems that a polytechnic director now personifies that polytechnic—at least in the eyes of the L.e.a.

A discussion paper, on arguments in favour of a self-validation and accreditation has been presented to the academic board of Leicester Polytechnic, the director, Mr David Robins, is now being discussed by the boards before being given consideration by the academic board. The presumption so far has been that the governing body would consider such a proposal on the advice of academic board, not that the L.e.a. would not do so without the advice of the governing body of the polytechnic. These assumptions may now be in doubt.

Moreover, there have been consultations on the implications for staff tenure, conditions of service and employment, etc., with a committee of the governing body at which the recognised teachers' associations (NATFHE and NUT) are in the polytechnic are represented, whose function it is to advise on just such matters.

It augers ill for the internal college democracy, if chartered institutions such as the CDP if a proposal of importance is "the subject of discussions", in the name of a polytechnic, with the L.e.a. the collective view of the polytechnic has been determined by the process of democratic decision making within the institution.

Academic staff of polytechnics would do well to consider the arguments presented by their leader, but also whether their interests would be safeguarded by a college democracy and autonomous, chartered status such as the CDP with not, it now seems that they must be alert for unilateral initiatives by individual directors operating camera with their L.e.a. masters.

Neither the future of higher education in this country nor the interests of polytechnic staff will be served by unilateral initiatives by individual institutions or through closed door diplomacy in the corridors of County Hall, Elizabeth House. They are unlikely to be well served by seeking schemes admissible only as enclaves of the CDP without the support of those who teach in polytechnics.

Yours faithfully,
NANETTE WHITBREAD (Dr)
of NATFHE Co-ordinating Committee
Leicester Polytechnic

Kierkegaard's parentage

Sir,—I sympathize with Harvie Ferguson (*THES*, November 23) when he envisages generations of thesis-writers lacking "the courage to misunderstand" Soren Kierkegaard.

But the courage to misunderstand cannot cover Ferguson's erroneous claim that "Soren was conceived out of wedlock during the year of mourning for his (SK's father's) first wife". Soren was the youngest of seven children born to M. P. Kierkegaard and his second wife; it was their first child, a girl, who appeared too soon for comfort.

Ferguson also wrongly asserts that Kierkegaard's "thorn in the flesh", a main hindrance to his marriage, was physical. The "thorn" was some physical peculiarity. Both Kierkegaard and his doctor (whom he consulted during his engagement) thought it made marriage a doubtful prospect.

Kierkegaard loathed little-tattle and the press, but might not be displeased by this little-tattle for—with your approval, Sir—the press: Ferguson has not appreciated the extent to which Kierkegaard was, as he claimed, "dialectical in everything". The man who wrote: "Even if my life had no other significance, well, I am satisfied with having really discovered the absolutely demoralizing existence of the daily press", was the same extraordinary individual who read the papers avidly, and who finally launched a prolonged and all-out attack on the Church through the daily *Fædrelandet* (showing Christianity did not exist in Christendom, naturally).

Yours faithfully,
PENELOPE PALMER,
Lecturer in moral philosophy,
University of St Andrews.

OU course teams

Sir,—An article in your issue of November 30 reports a "double attack" on the Open University course team. It falls, however, to bring out the nub of Professor Michael Drake's critique. It therefore obscures the fact that his "attack" and that of the Tavistock Institute of Human Relations are, if destructive at all, mutually destructive of one another.

The reason why Professor Drake, as I understand him, believes the course team to be a "cancer" at the heart of the Open University has to do with its success as a social institution. He claims that the course team is "the only important social context" of Open University academics. Its cancerous influence arises because it provides the moral support for various undesirable practices, which divert from the production of good courses or from attention to research.

If, however, the Tavistock Team's diagnosis is correct, Professor Drake's worries are groundless. Course teams, accordingly to this diagnosis, fail to provide academics with moral support of any kind. Where Professor Drake blames them for supporting the illusion of a good job being done when it is not, the Tavistock Team accuses it of reducing its members to despair and depression.

I have been actively involved in producing some very different types of course, from the highly-knit specialist courses which have a tendency in the direction Professor Drake rightly regrets, to working interdisciplinary courses to bring together academics who were not previously learning to work together. The fact that those "attacks" identified two tendencies seems to me to show they reflect the interests and values of those who have made them. Professor Drake, on this occasion, is not so much social researcher as the Old Testament prophet reminding us of the true function of the course team should be.

Yours sincerely,
DR STUART BROWN,
Senior Lecturer in Philosophy,
The Open University.

Keith Hampson

Sir,—I had been looking forward to reading the article (November 30) by my MP on "The Left's intellectual corruption". Colleagues who know him well assure me that he and I have a common interest in and concern for education. But, having read the article, I could not decide whether it was by Rhodes Hampson or Keith Boyson. So I consulted my knowledgeable colleagues and we narrowed it down to two possibilities. Either it was composed by that nice Angela in Conservative Central Office who is so deft with scissors and paste and an absolute wizard at cracking together speeches and articles, with suitable passages from Thatcher's Thesaurus of Platitudes, or, as I was inclined to believe, it was a subtle bit of satire by the real Keith Hampson doing an academic Alf Garnett for the entertainment of members of the AUT, NAFTHE and the CVCP.

But then I read the article again—I enjoy a bit of satire, when I can get the point—and doubt began to niggle. So I asked my wife, Shirley, an educated and well-read woman.

Her opinion dismayed me. She reckoned that the article was definitely by Keith Hampson and that he was being frank and serious so as not to mislead his constituents or other chosen readers. For her, the sincerity of his gaze in the photograph clinched the matter.

So now I'm depressed. Could you let us know the truth? Though I love my wife and respect her judgment, I hope she is wrong. But if she is, I expect the title is wrong, surely.

Shouldn't it be "The Right's intellectual poverty"?

It's not even plausible polemic.

Yours sincerely,
JOHN GREVE,
Department of Social Policy and Administration,
University of Leeds.

Double think

Sir,—Two items in *The THES* November 16 illustrate both the extent to which "double think" can take over the potentially creative academic mind.

The first item was on page 7: it was an account of a speech by Official Information Bill—it was on the final page: it was an account of AUT objections to the publication of NUS findings on teaching standards at the University of Manchester.

What a pity the two items were not juxtaposed!

Yours faithfully,
T. D. WILSON,
27 Hillcop Road,
Dronfield, Sheffield.

Letters for publication should be on Tuesday morning at the latest. They should be short and to the point, and the editor reserves the right to cut or amend them.

TIMES PAST THE TIMES

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The polytechnics' first decade

The polytechnics have been a great success but the binary division of higher education has remained a most controversial policy. It is this paradox that is at the heart of the general ambivalence about the final outcome of the polytechnic experiment undertaken 14 years ago by Mr Crosland and firmly institutionalized 10 years ago by the formal designation of Hatfield, Newcastle and Sheffield Polytechnics (and 23 others later in 1969).

There is no room for doubt about the success of the polytechnics as institutions of higher education—whatever their very conservative and, one suspects, rather nervous detractors in some universities may care to believe. Their success is as great as that of the Open University which we celebrated three weeks ago. The expansion of the polytechnics has offered higher education opportunities to thousands, perhaps hundreds of thousands, of young people who were well qualified and highly motivated by any decent international standard but whom the universities even in the exuberant Robbins years could not accommodate. Their academic standards have not been compromised by this expansion, due more than some directors like to admit to the stoney insistence on high standards by Dr Kerr at the CNAA. Their success has incorporated into the legitimate mainstream of higher education certain subjects and areas of study that previously had survived perilously on the margins of respectability. They have carried out the important job of course innovation and curricular reform undertaken by the new universities briefly and half-heartedly when new maps of learning were still being drawn without embarrassment.

There is a little more robust for doubt about the success of the polytechnics as a genre, a group of institutions distinct on the one hand from the universities and on the other from the rest of advanced further education and teacher education. The polytechnics, particularly in their higher eschelons, have developed a rather exclusive solidarity during the past ten years. But whether this has been enough to overcome the arbitrariness of their creation must be doubtful. After all the boundaries between polytechnics and both universities and the rest of further education are fuzzy. Why should City be a university and Hatfield a polytechnic, or Teesside a polytechnic and Ealing a college of higher education? The answers to these questions are rather irrational. Of course, the polytechnics have by their very success helped to widen our view of higher education, an achievement that should not be under-rated in a country where still fewer than 14 per cent of school-leavers go on to any form of higher education. But the implicit claim of the polytechnics, at least in their early days, to represent a rival form of higher education to universities, more vital and more popular, has not really been sustained by the actual experience of their first ten years—complementary, certainly; supplementary, yes; but rival, no.

There is a great deal of room for doubt about the value to the polytechnics of continuing the binary policy into the 1980s. Indeed the division of higher education into discrete sectors—which emphasizes the differences between institutions to an exaggerated extent—will only exacerbate the competition for students, status, and resources between universities and polytechnics, and polytechnics and colleges. It encourages universities to adopt derogatory attitudes to the polytechnics and the polytechnics to imagine that they have discovered a philosopher's stone that will unravel all the difficult problems posed by the emergence of a semi-mass system of higher education. Their creation broke the Robbins orthodoxy. So it would be especially sad if their success was frozen into a new binary orthodoxy which in time constricted our ideas and hopes just as much.

The best way forward for the polytechnics in the 1980s is to be included in a much larger and more liberal university sector, in which unlike the former CATs they would not have to conform to some traditional straitjacket but be free to maintain their own individuality, in which local authority control or direct-grant funding had as legitimate places as UGC-style autonomy, and in which the role of validating bodies like the CNAA was acknowledged and valued. Then each institution, whether university, polytechnic, or college, would be free to evolve the 'mix" of funding or validation that was most appropriate to its chosen circumstances, rather than having to become a fully committed team player in the adversarial game of binary higher education. So perhaps the best slogan for the polytechnics in the 1980s will be the paradoxical one: the binary policy is dead, long live the polytechnics.

Strong case for a British Brookings

Will it be third time lucky for the British Brookings? The first two attempts to construct a British version of the United States' Brookings Institution were both shipwrecked. Professor Ralph Dahrendorf's original idea of a policy studies institute which would examine the "British disease" failed because it became public in a way that social sciences establishment. However, when the Social Science Research Council under Mr Derek Robinson took up the idea it faced new obstacles, the suspicion of the small policy institutes like PEP and SSSP (now merged in the Policy Studies Institute) the failure of those social scientists who were enthusiasts for policy studies to bury their differences and make common cause, the consequent failure to define the job of a British and finally and fatally the hemorrhage of political confidence in social science research.

The new attempt to establish a British Brookings looks much more promising. First, its proposed form is an Institute to study the implications of technological change does not run the risk of arousing the tendencies of overexpectations that proved fatal to the first two attempts. Second, it is more narrowly focussed, (is apparently so on technological change which both makes the scheme more manageable in its intellectual scope and more palatable to the politicians who constantly wonder about the point of social science research but whose doubts evaporate when the Finally, many of the detailed obstacles which held up the first two attempts have now been removed. In particular, the Policy Studies Institute has developed a strength and reputation that allows it to take a much more relaxed view of the creation of an officially-inspired rival.

All this is fortunate because the case for a British Brookings is still strong. Indeed it is probably stronger than ever. The failure of the first two initiatives in this field was a revealing symptom of the British disease. It showed just how difficult it had become to push through a reform, about which there was a large measure of agreement in principle, against the entrenched conservatism of British public life, and in particular how arthritic the relationship between Government and the academic world had become.

The attempt to create a British Brookings is so exciting precisely because it is an attempt to create a new type of institution which will allow a more relaxed and more creative relationship to develop in an area in which our existing traditional institutions so often appear to discourage such a development. In a wider sense a British Brookings should go on pressing hard for many more. But no government, no matter what its political complexion and no matter how good its intentions, is conceivably going to be able to provide full-time, paid, professional support for such numbers on a one-to-one basis. As chairman of the national Advisory Council for Adult and Continuing Education, I would think it irresponsible for us to press for the realization of such a pipe-dream. Nor would I want to have much to offer each other. The will to create a British Brookings does seem to exist. What has been lacking until now was the means. With luck the new initiative by Leverhulme, the Science Research Council, and the Social Science Research Council will provide these means.

Reform of the examination structure

By next year the great debate over reforms of school examinations will have been going on for almost a decade. Yet there will be little to show in terms of useful reforms. Report for the Keohane report's recommendations this week for a new national certificate of extended education.

Discussion over a Common examination at 16-plus has yet to reach concrete solutions, while the reform of A levels to be replaced by the new Normal and Further level examinations, floundered in the face of opposition from universities.

So far the debate over examination reform has highlighted the reactionary attitude of universities in particular.

N and F levels, they said, would undoubtedly lead to a lowering of standards, and therefore to a need for lengthening degree courses to four years or even more years and restrict the syllabus of the first year course, to which they were opposed and which was hardly feasible in terms of cost.

Moreover, they felt that the group of students who stayed on at school for another two years were a fairly homogeneous group as far as their aspirations were concerned. And A level was considered the adequate and relevant preparation for degree work for this group.

Yet the most obvious hole in this argument was provided by the universities themselves in their response to N and F proposals published by the Standing Conference on University Entrance. This showed great concern about the proliferation of subject variants at A level. As a result it was claimed that it was no longer possible to depend on new entrants to university having in common the knowledge and skills appropriate to a subject, so that remedial teaching had become necessary in the first year especially in science subjects.

In spite of this universities did not see the underlying need for a reform of examination and curriculum at school level, but only suggested the introduction of a common core in specific subjects and the introduction alongside A level of a two year course possibly based on adaptation and development of existing A/O level syllabuses.

Yet if universities are to face confidently a future where competition for students will intensify as the predicted hump never materialises, they will have to be prepared to admit less traditional students. To that end they have a vested interest in promoting less traditional school examinations which will offer their students not only better preparation for university but for their future careers.

Should there be room for volunteers?

Richard Hoggart

Current arguments about the pros and cons of using volunteers in some kinds of teaching are beginning to take on a hard edge. The fiercer opponents of the voluntary system see it as almost entirely a political device, a way in which mean local authorities can get work done on the cheap. They also question the pedagogical wisdom of using volunteers. We can easily see the grounds of their objections while also thinking them at bottom misguided in both respects. I will take, as a very good test case and one where the argument rages, the use of volunteers in adult literacy work.

First, the economic case, the argument that the willingness to use voluntary help is a trick by government or local authorities to help them avoid paying for the training and appointing of enough professional literacy teachers. No doubt there are some people in some authorities who think that way. But it's never good sense to react into a total, restrictive position because of the behaviour of a bad minority. We have still not far short of two million illiterates in this country, and about a further million and a half people are badly in need of quite basic further education.

So about three and a half million, on a conservative estimate, need either literacy training or elementary personal and social education, or both. The illiterates need one-to-one attention, as it is now called; a teacher each. We are, it is true, very short indeed of trained literacy teachers, and we should go on pressing hard for many more. But no government, no matter what its political complexion and no matter how good its intentions, is conceivably going to be able to provide full-time, paid, professional support for such numbers on a one-to-one basis. As chairman of the national Advisory Council for Adult and Continuing Education, I would think it irresponsible for us to press for the realization of such a pipe-dream. Nor would I want to have much to offer each other. The will to create a British Brookings does seem to exist. What has been lacking until now was the means. With luck the new initiative by Leverhulme, the Science Research Council, and the Social Science Research Council will provide these means.

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professional training if that were not so. But I've seen some practice here and, though I wouldn't want to make a glib inversion and argue that one can easily suspect a negative correlation between the loudness of claims made for professionalism-without-voluntarism and effectiveness in the practice of the work, nevertheless I do not think there is a clear positive correlation of anger-against-voluntarism with professional effectiveness.

For some of those who argue most insistently, 'professionalism' has become a protective slogan against what are felt to be threats to wage-bargaining positions and politically-motivated attacks on the emergence of a fully-professionalized teaching service in all its branches, or even on the idea of a fully-literate democracy.

These are quite hard words but some of these are hard and aggressive people, for whom sinning against some of the best light we have has been elevated into a self-sustaining dogma. Good teaching at any level is both a professional skill and a constant, and constantly redefined, challenge to our human sympathies. The second without a good element of the first can lead to vague and mushy practice; but the first without the second makes teaching a forced and loveless marriage.

If you have seen a retired grammar-school teacher (not trained in literacy work but willing to learn under guidance) doing one-to-one teaching with 40-odd-year-old bachelors, trapped in bed-sitters and in all the personal and social deprivations which illiteracy can bring (t can be, especially in big and broken-up cities, like a condition of intellectual and imaginative deaf-and-dumbness), if you have seen such things you have seen some very considerable human achievements.

Such teachers often establish relationships with their students—indeed, it is usually a condition of the success of literacy training itself that such relations have to be established, honestly and tactfully—which are every bit as important of part of the educational process which is under way as the actual training in literacy.

Even more important; the fact that we were able to set up such a widespread adult literacy network in the past few years, with quite small national and local funding (but with considerable help from the BBC), is something of which we should be very proud indeed. If the harder opponents of voluntarism, while still at their right, pursuing the main lines of their case, nevertheless gave more hints that they realised what an achievement this is, one would have more respect for their fears and faith in their fellow feeling. One of the better British achievements of the past 200 years or so has lain just here: that in cities and rural areas and at all levels, over an astonishingly complex range of activities, people have felt moved—called—to help make this place work better. They have not been satisfied to say simply: "They—the State, the authorities, the bosses, or some other They—ought to do something about this, or directly provide that". They have said instead: "I think I could help here".

They have done so not only because by this means more gets done sooner, but from a deeper and usually unspoken impulse, one which George Orwell firmly put his finger on and himself tried to live by. They did it because they felt that this country is in some sense, beyond all the still awful divisions of class, and not only in wartime, is a sort of "family" (though one "with the wrong members in control", as Orwell nicely added); that we are members one of another, and must help our neighbours. They did this, in a single phrase which against this background now takes on fine multiple meanings: "for love".

To define this tradition and its expression in education today by a and over-extended definition of prior, reductive, political formulation, wholly to write it off as a device by a few mean-minded local authorities, or to dismiss it by recourse to an insufficiently examined an over-extended definition of "professionalism" (one which makes "professionalism" into a mystique bred from one one element in the mixture which makes good teaching)—to do this is to be immured in a self-imposed myopia too deep to be afforded by anyone who cares about people, about the best traditions of education in Britain or about the challenges now before it.